



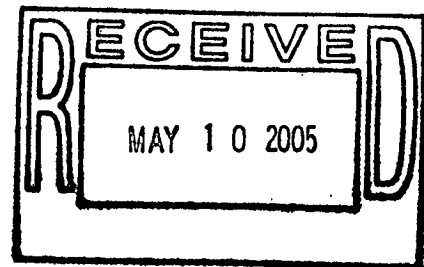
Rocky Flats Environmental Technology Site

TYPE 1 RECONNAISSANCE LEVEL CHARACTERIZATION REPORT (RLCR)

BUILDING 460 CLOSURE PROJECT

April 20, 2005

REVISION 0



ADMIN RECORD

**CLASSIFICATION REVIEW NOT REQUIRED PER
EXEMPTION NUMBER CEX-005-02**

IA-A-002610

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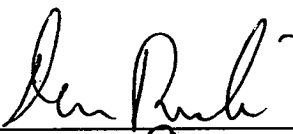
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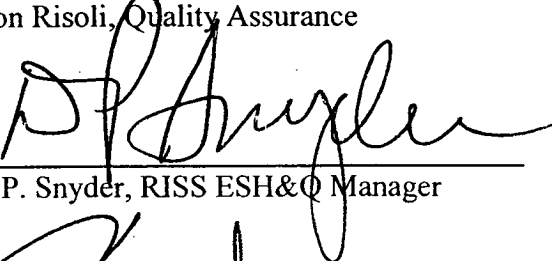
Reviewed by:



Don Risoli, Quality Assurance

Date: 4/20/05

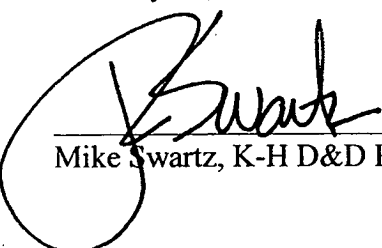
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- D Chemical Data Summaries and Sample Maps
- E Data Quality Assessment (DQA) Detail

ABBREVIATIONS/ACRONYMS

ACM	Asbestos containing material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act
DCGL _{EMC}	Derived Concentration Guideline Level – elevated measurement comparison
DCGL _w	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data quality assessment
DQOs	Data quality objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, ventilation, air conditioning
HSAR	Historical Site Assessment Report
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-based paint
LLW	Low-level waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
NORM	Naturally occurring radioactive material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, accuracy, representativeness, comparability and completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-demolition survey
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSP	Radiological Safety Practices
SVOCs	Semi-volatile organic compounds
TCLP	Toxicity Characteristic Leaching Procedure
TSA	Total surface activity
VOCs	Volatile organic compounds

EXECUTIVE SUMMARY

A Reconnaissance Level Characterization (RLC) was performed to enable facility "Typing" per the DPP (10/8/98) and compliant disposition and waste management of Building 460. Because this facility was an anticipated Type 1 facility, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). All facility surfaces were characterized in this RLC, including the interior floors, walls, ceilings, and equipment. Environmental media beneath and surrounding the facility was not within the scope of this RLCR and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

The RLC encompassed both radiological and chemical characterization to enable compliant disposition and waste management pursuant to the D&D Characterization Protocol (MAN-077-DDCP). The characterization built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Reports.

Results indicate that no radiological contamination exists in excess of the PDSP unrestricted release limits of DOE Order 5400.5. A asbestos survey was completed in 1994 and determined that there is Category 1 non-friable asbestos containing vinyl asbestos floor tile and mastic (1.4%) in the Room 151 area. Category 1 non-friable asbestos containing caulk was also identified on the building exterior flashing between the concrete and metal walls that contain 1.0% asbestos. However, since these materials are Category 1 non-friable ACM, asbestos abatement is not necessary prior to demolition and the demolition debris can be managed as sanitary waste. All other asbestos samples were less than CDPHE, Regulation No. 8, Part B, *Emission Standards for Asbestos* limits. Sampling and analysis for RCRA Metals indicated the potential for lead to be above the regulatory limit of 5 ppm. Additional sampling and analysis confirmed the paint is lead-based. However, Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based paint Debris Disposal*, states that LBP debris generated outside of currently identified high contamination areas shall be managed as non-hazardous (solid) waste, and additional analysis for characteristics of hazardous waste derived from LBP is not a requirement for disposal. Because there were no high contamination areas in Building 460, the paint meets unrestricted release criteria and may be disposed of as non-hazardous (solid) waste. All beryllium sample results were less than $0.1 \mu\text{g}/100\text{cm}^2$. Based upon this RLCR, Building 460 is considered a Type 1 facility and can be demolished. To ensure the facility remains free of contamination and the RLC data remain valid, Level 2 Isolation Controls have been established and the facility posted accordingly.

1 INTRODUCTION

A Reconnaissance Level Characterization (RLC) was performed to enable compliant disposition and waste management of Building 460. Because this facility was an anticipated Type 1 facility, a PDS characterization was performed. All facility surfaces were characterized in this RLC, including the interior and exterior surfaces of the facility (i.e., floors, walls, ceilings and roofs). Environmental media beneath and surrounding the facility was not within the scope of this RLC Report (RLCR) and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed, among these is Building 460. The location of this facility is shown in Attachment A, *Facility Location Map*. This facility no longer supports the RFETS mission and needs to be removed to reduce Site infrastructure, risks and/or operating costs.

Before the facility can be removed, a Pre-Demolition Survey (PDS) must be conducted; this document presents the PDS results. The PDS was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). The PDS built upon physical, chemical and radiological hazards identified in the facility-specific *Historical Site Assessment Report for the Area 5 - Group 7 Facilities*, Dated October 2002, Revision 0.

1.1 Purpose

The purpose of this report is to communicate and document the results of the RLC effort. A RLC is performed before building demolition to define the pre-demolition radiological and chemical conditions of a facility. The pre-demolition conditions are compared with the release limits for radiological and non-radiological contaminants. RLC results will enable project personnel to make final disposition decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

1.2 Scope

This report presents the pre-demolition radiological and chemical conditions of Building 460. Environmental media beneath and surrounding the facility is not within the scope of this RLCR and will be addressed using the Soil Disturbance Permit process and in compliance with RFCA.

1.3 Data Quality Objectives

The Data Quality Objectives (DQOs) used in designing this RLC were the same DQOs identified in the Pre-Demolition survey Plan for D&D Facilities (MAN-127-PDSP.) Refer to section 2.0 of MAN-127-PDSP for these DQOs.

2 HISTORICAL SITE ASSESSMENT

A facility-specific Historical Site Assessment (HSA) was conducted to understand the facility history and related hazards. The assessment consisted of facility walkdowns, interviews, and document review, including review of the Historical Release Report (refer to the D&D Characterization Protocol, MAN-077-DDCP). Results were used to identify data gaps and needs, and to develop radiological and chemical characterization packages. Results of the facility-specific HSA was documented in a facility-specific *Historical Site Assessment Report for the Area 5 - Group 7 Facilities*, Dated October 2002, Revision 0. Refer to Attachment B, *Historical Site Assessment Report*, for a copy of the Building 460 HSAR. In summary, the HSAR identified a low potential for radiological, chemical, asbestos and beryllium hazards.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

Building 460 was characterized for radiological hazards per the PDSP. Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on, or in the facility surfaces. Measurements were performed to evaluate the contaminants of concern. Based upon a review of historical and process knowledge, building walk-downs, and MARSSIM guidance, Radiological Characterization Plans were developed during the planning phases that describe the minimum survey requirements (refer to the RISS Characterization Project files).

Radiological survey packages 460002, 460003 and 460004 were developed for the interior of Building 460. The survey packages were developed in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure*. All Survey Units are MARSSIM Class 3 areas due to the low potential for radiological contamination in Building 460. Total surface activity (TSA), removable surface activity (RSA), and scan measurements were collected in accordance with RSP 16.02 *Radiological Surveys of Surfaces and Structures*. Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis*. Quality control measures were implemented relative to the survey process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control*.

Four hundred and three (403) TSA measurements (285 random, 101 biased and 17 QC) and three hundred and eighty six (386) RSA measurements (285 random and 101 biased) were performed; and a minimum 5% of the interior surfaces of the facility were scanned. The RLC data confirmed that this facility does not contain radiological contamination above the surface contamination guidelines provided in the PDSP. Radiological survey data, statistical analysis results, and survey locations are presented in Attachment C, *Radiological Data Summary and Survey Maps*. Radiological survey unit packages are maintained in the RISS Characterization Project files. Level 2 Isolation Control postings are displayed on the building entrances to ensure no radioactive materials are inadvertently introduced into the facility.

Exterior radiological surveys for Building 460 were performed as part of the West Side Exterior PDS Report, which was approved on March 24, 2005 by DOE and CDPHE. The West Side Exterior PDS Report confirmed that the exterior surfaces of Building 460 do not contain radiological contamination above the surface contamination guidelines provided in the PDSP. The West Side Exterior PDS Report and survey data, statistical analysis results, and survey map locations are maintained in the RISS Characterization Project files.

4 CHEMICAL CHARACTERIZATION AND HAZARDS

Building 460 was characterized for chemical hazards per the PDSP. Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on or in the facility. Based upon a review of historical and process knowledge, visual inspections, and PDSP DQOs, additional sampling needs were determined. A Chemical Characterization Plan (refer to RISS Characterization Project files) was developed during the planning phase that describes sampling requirements, the justification for the sample locations and estimated sample numbers. Contaminants of concern included asbestos, beryllium, RCRA/CERCLA constituents, and PCBs.

4.1 Asbestos

A comprehensive asbestos inspection was conducted to determine the presence of friable and non-friable asbestos containing building material. The characterization was conducted in accordance with the PDSP. A CDPHE-certified asbestos inspector conducted the inspection and sampling in accordance with the *Asbestos Characterization Protocol, PRO-563-ACPR, Revision 1*. Building materials suspected of containing asbestos were identified for sampling at the discretion of the inspector.

A comprehensive, invasive asbestos survey was completed in 1994 and determined that there is Category 1 non-friable asbestos containing vinyl asbestos floor tile and mastic (1.4%) in the Room 151 area. Category 1 non-friable asbestos containing caulk was also identified on the building exterior flashing between the concrete and metal walls that contain 1.0% asbestos. However, since these materials are Category 1 non-friable ACM, asbestos abatement is not necessary prior to demolition and the demolition debris can be managed as sanitary waste. Since the floor tile and caulking samples were collected in 1994, no sample location maps were available for this report.

Paint samples were collected in November 2003 to determine if there is a presence of skim coat that may contain asbestos. All 2003 laboratory results were non-detect for asbestos. On this basis, no additional asbestos sampling was required or performed as part of this RLC. Asbestos laboratory analysis data and sample location maps collected in 2003 are contained in Attachment D, *Chemical Data Summaries and Sample Maps*.

4.2 Beryllium (Be)

Based on the HSAR and personnel interviews, Building 460 was an anticipated Type 1 facility. However, the High Bay area was on the List of Known Beryllium Areas. Therefore, random and biased beryllium sampling was performed in the High Bay areas accordance with the PDSP and the *Beryllium Characterization Procedure, PRO-536-BCPR, Revision 0, September 9, 1999*. Biased sampling was performed in the Building 460 office areas. Biased sample locations corresponded with the most probable areas of dust accumulation (including beryllium dust), assuming airborne deposition. All 125 random and biased beryllium swipe sample results were less than $0.1 \mu\text{g}/100\text{cm}^2$. Beryllium laboratory sample data and location maps are contained in Attachment D, *Chemical Data Summaries and Sample Maps*.

4.3 RCRA/CERCLA Constituents [including metals and volatile organic compounds (VOCs)]

Based on a review of the HSAR and a facility walk-down, Building 460 contained a small organic coatings laboratory and a silver recovery operation, as well as, a machine shop. Two samples and one duplicate were taken in room 141 where the tanks were located that stored and processed chromium. Because chromium was the only chemical stored in these tanks, only sampling and analysis for RCRA Metals was performed. On this basis, no VOC and SVOC sampling was performed as part of this RLC.

The analytical (RIN#05Z0992) for the core samples reported Total Concentration for lead greater than 100 mg/kg in two of the samples taken from in front of the tanks. This would indicate the potential for lead to be above the regulatory limit of 5 ppm. However, the sample taken from behind the tank did not have this level of lead concentration. The only difference between the sample locations was the type of paint covering the floor. Therefore, two confirmatory samples (RIN#05Z1155) of the paint in front of the tank were taken. The analysis confirmed that the paint is lead-based. However, Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based paint Debris Disposal*, states that LBP debris generated outside of currently identified high contamination areas shall be managed as non-hazardous (solid) waste, and additional analysis for characteristics of hazardous waste derived from LBP is not a requirement for disposal. Because there were no high contamination areas in Building 460, this paint may be disposed of as non-hazardous (solid) waste. Consequently, additional sampling for lead in paint in Building 460 is not required.

RCRA permitted units 39.03 and 40.08-40.15, were closed in accordance with the RCRA Closure Plan for the B460 Process Waste System (10/19/95), and the Closure Certification was signed on 9/16/96 (96-DOE-05751). The remaining portion of RCRA unit 374.3 in B460 was closed under the CDD for the 400 Area Valve Vaults. The Closure Summary Report was submitted on 6/23/03 (03-RF-00967). The RCRA permitted storage Unit 460.1, in the highbay of B460, was closed in accordance with Part X.D.1.a. – Clean Closure Option #1: Unit Review and Inspection. A PE Certification will be submitted with the Closure Summary Report. RLC laboratory sample data and location maps are contained in Attachment D, *Chemical Data Summaries and Sample Maps*.

4.4 Polychlorinated Biphenyls (PCBs)

Based on the HSARs, interviews and facility walk-downs of Building 460, no PCB-containing equipment was ever present in the building, making the potential for PCB contamination resulting from spills highly unlikely. Therefore, PCB sampling was not performed in Building 460 as part of the RLC. Based on the age of Building 460 (constructed after 1980), paints used are assumed to not contain PCBs. Additionally, the building is likely to contain PCB light ballasts. All light ballasts will be inspected and if leaking or large (greater than 9 pounds) PCB ballasts are discovered, they will be removed prior to demolition and managed accordingly.

5 PHYSICAL HAZARDS

Physical hazards associated with Building 460 consist of those common in standard industrial environments and include hazards associated with energized systems, utilities, and trips and falls. The facility has been relatively well maintained and is in good physical condition, and therefore, does not present hazards associated with building deterioration. However, care should be taken during demolition as Building 460 is associated with the following IHSSs, PACs and/or UBCs:

- 400-136.1, "Cooling Tower Pond East of Building 444"
- 400-157.2, "Radioactive Site South Area – Active"
- 400-205, "Building 460 sump No. 3, Acid Side – Active"
- 400-804, "Road North of Building 460 – Active"
- 400-812, "Tank T-2 spill in Building 460 – Proposed NFA in 2001"
- 400-813, "RCRA Tank Leak in Building 460 – Active"
- 400-815, "RCRA Tank Leak in Building 460 – Active"

Physical hazards are controlled through the Site Occupational Safety and Industrial Hygiene Program, in accordance with OSHA regulations, DOE orders, and standard industry practices.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of Building 460, and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments C and D) were verified and validated relative to DOE quality requirements, applicable EPA guidance, and original DQOs of the project.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- ◆ the *number* of samples and surveys;
- ◆ the *types* of samples and surveys;
- ◆ the sampling/survey process as implemented "in the field"; and,
- ◆ the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are provided in Attachment E, *Data Quality Assessment Detail*.

7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The demolition and disposal of Building 460 will generate sanitary waste suitable for disposal at an RFETS-approved sanitary waste landfill. Estimated waste volumes are presented below. All waste can be disposed of as sanitary waste, there is no radioactive or hazardous waste.

Waste Volume Estimates and Material Types – Building 460							
Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste
460	42,400	0	73,000	24,000	20,600	100	NONE

8 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, Building 460 is classified as a RFCA Type 1 facility pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999) and can be demolished. The Type 1 classification is based on a review of historical and process knowledge, and newly acquired RLC data.

The RLC of Building 460 was performed in accordance with the DDCP and PDSP. All PDSP DQOs were met, and all data satisfied the PDSP DQA criteria. Building 460 did not contain radiological or hazardous waste. Category 1 non-friable asbestos containing caulk was also identified on the building exterior flashing between the concrete and metal walls that contain 1.0% asbestos. However, since these materials are Category 1 non-friable ACM, asbestos abatement is not necessary prior to demolition and the demolition debris can be managed as sanitary waste. Sampling and analysis for RCRA Metals indicated the potential for lead to be above the regulatory limit of 5 ppm. Additional sampling and analysis confirmed the paint is lead-based. However, Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based paint Debris Disposal*, states that LBP debris generated outside of currently identified high contamination areas shall be managed as non-hazardous (solid) waste, and additional analysis for characteristics of hazardous waste derived from LBP is not a requirement for disposal. Because there were no high contamination areas in Building 460, the paint meets unrestricted release criteria and may be disposed of as non-hazardous (solid) waste. Environmental media beneath and surrounding the facility will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

To ensure this Type 1 facility remains free of contamination and the RLC data remain valid, Level 2 Isolation Controls have been established and the facility posted accordingly.

9 REFERENCES

- DOE/RFEO, CDPHE, EPA, 1996. Rocky Flats Cleanup Agreement (RFCA), July 19, 1996.
- DOE Order 5400.5, "Radiation Protection of the Public and the Environment."
- EPA, 1994. "The Data Quality Objective Process," EPA QA/G-4.
- K-H, 1999. Decommissioning Program Plan, June 21, 1999.
- MAN-131-QAPM, *Kaiser-Hill Team Quality Assurance Program*, Rev. 1, November 1, 2001.
- MAN-076-FDPM, *Facility Disposition Program Manual*, Rev. 3, January 1, 2002.
- MAN-077-DDCP, *Decontamination and Decommissioning Characterization Protocol*, Rev. 3, July 15, 2002.
- MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities*, Rev. 1, July 15, 2002.
- MARSSIM - Multi-Agency Radiation Survey and Site Investigation Manual, December 1997 (NUREG-1575, EPA 402-R-97-016).
- PRO-475-RSP-16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation, and Closure*, Rev. 1, May 22, 2001.
- PRO-476-RSP-16.02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Structures*, Rev. 1, May 22, 2001.
- PRO-477-RSP-16.03, *Radiological Samples of Building Media*, Rev. 1, May 22, 2001.
- PRO-478-RSP-16.04, *Radiological Survey/Sample Data Analysis for Final Status Survey*, Rev. 1, May 22, 2001.
- PRO-479-RSP-16.05, *Radiological Survey/Sample Quality Control for Final Status Survey*, Rev. 1, May 22, 2001.
- PRO-563-ACPR, Asbestos Characterization Procedure, Revision 0, August 24, 1999.
- PRO-536-BCPR, Beryllium Characterization Procedure, Revision 0, August 24, 1999.
- RFETS, Environmental Waste Compliance Guidance #25, Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition.
- RFETS, Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal.
- RFCA Standard Operation Protocol for Recycling Concrete, September 28, 1999.
- Historical Site Assessment Report for the Area 5 - Group 7 Facilities*, Dated October 2002, Revision 0.

ATTACHMENT A

Facility Location Map

ATTACHMENT B

Historical Site Assessment Report

**D&D RISS Facility Characterization
Historical Site Assessment Report
October, 2002 Rev. 0**

Facility ID: (AREA 5 - Group 7) Buildings 460, 439, 462, 668, and T664A.

Anticipated Facility Type (1, 2, or 3): Buildings 460, 439, 668, 462 and T664A are anticipated Type 1 facilities.

This facility-specific Historical Site Assessment (HSA) has been performed in accordance with:

D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and

Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Physical Description

Building 460

Building 460 is a 212,980 square foot, two-story structure, built in 1984. The structure is a pre-fabricated building constructed on a concrete foundation. The exterior walls are constructed of insulated metal panels attached to a steel frame. The roof is constructed of metal decking with built-up roofing. Building 460 is configured with the south half of the building as office space and a high-bay area on the north half of the building. The ceilings of the office area are 2-foot by 4-foot acoustical panels with recessed light fixtures. The floors in the offices are mostly carpeted. The ceiling in the high-bay area is the underside of the roof and the floor is concrete.

Building 460 has the following utilities: electrical, plant water, plant sanitary, plant steam, and fire protection is provided by an overhead sprinkler system and wall mounted fire extinguishers. Building 460 was originally connected to the site process waste system. The building's process waste system was isolated in the mid 1990s.

Building 439

Building 439 is a 5,140 square foot, single story building constructed in 1971. This structure is a pre-fabricated insulated metal building constructed on a concrete slab. This building is configured with a high bay area in the center of the building and several smaller machine rooms and offices on the east and west sides of the building.

Building 439 has the following utilities: electrical, plant water, plant sanitary, and fire protection is provided by an overhead sprinkler system and wall mounted fire extinguishers.

Building 462

Building 462 is a 590 square foot cooling tower constructed in 1985 and provides cooling water to Building 460. Building 462 is a metal structure elevated above a concrete pad by 8 concrete pedestals.

Building 462 has the following utilities: electrical and plant water.

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Building 668

Building 668 is a 1,540 square foot single-story building constructed in 1957. The exterior walls are Transite® panels and fiberglass panels, the floor is a concrete pad pour on grade. Building 668 is not a heated building and does not have a ventilation system. The building was once wire for electricity but is currently disconnected. The building was also fitted with fire protection sprinkler heads, but these heads were never activated.

Building 668 currently has no utility hook-ups.

Trailer T664A

Trailer T664A is a 4,392 square foot general office trailer acquired in 1991. This trailer has corrugated metal siding with corrugated metal skirting. The entrances have wooden stairs leading to a wooded enclosure. The interiors are primarily a cubical layout, but have several hard-walled offices, conference rooms, and rest rooms. Interior walls are wallboard, the ceiling is a drop ceiling with acoustical tiles and recessed lights. The floors are primarily covered with carpet except in the bathrooms, which are covered with vinyl tile.

Trailer T664A has the following utilities: electrical, plant water, plant sanitary, and fire protection is provided by an overhead sprinkler system and wall mounted fire extinguishers.

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Historical Operations

Building 460

Building 460 was originally constructed as a manufacturing facility designed to fabricate stainless steel and other non-nuclear parts such as reservoirs, tubes, and non-fissile trigger components. Building 460 housed fabrication operations such as Mechanical Machining in Room 134, Electrochemical machining and Grinding in Room 141, Electro Discharge machining in room 141, and Crush grinding in room 142. Assembly machining in room 143, welding in rooms 122A, 122C, 132, 132B, 132C and 135, Grit Blasting in room 135B, Cleaning in rooms 156, 156C, and 157. Inspection operation in rooms 115A, 115H, 121, 122B, 123, 151A, 151S, and 163. A metallurgical laboratory was operated in Room 135. Room 141B housed a Hexavalent Chrome reduction process which was not part of the RCRA permit due to its classification as a recycling operation and this equipment still remain. Building 460 also had a cafeteria on the second floor until the mid 1990s

Non-radioactive process wastes were collected in 4 sump tanks. Sump Tank ST1 was located in room 141B, ST2 was located in Room 151, ST3 was located in Room 156, and T4 was located in room 156C. All these tanks have been closed in accordance with the "RCRA Closure Plan for the B460". The facility's process wastewater collection and filtration system was located in Room 140 and consisted of 2 holding tanks and a sump tank. Wastewater was filtered prior to being transported to Building 374 for treatment. These tanks have also been closed in accordance with the "RCRA Closure Plan for the B460". Most of the process waste lines were overhead lines and only in a few areas were they located in the concrete floor slab. Much of the process waste lines and process waste equipment were removed during the closure process. Waste streams handled in Building 460 included solvents, metals, and acids. See the building 460 WSRIC for a more complete list of process that occurred in Building 460.

In the mid 1990 manufacturing operation ended in Building 460 and most of the process equipment was removed. The building was then used as an administrative office building housing primarily DOE personnel. Building 460 began storing low level radioactive, RCRA and TSCA wastes in September 2002. Building 460 is currently a containerized waste storage facility, and does not perform any waste repackaging or waste treatment.

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Building 439

Building 439 was originally a fabrication and machine shop, which supported Building 440 operations as well as other R&D operations. Historically, this building housed such operations as an organic coating lab in the southeast corner of the building. A machine shop located on the west side of the building, quality assurance testing equipment such as NDT, ultrasonic density testing and tinsel testing equipment on the north side of the facility. Other operation housed in Building 439 include electronic equipment services, Gamma Survey instrument maintenance, silver recovery related to electronic equipment, Radiological counting and survey operations, and PU&D equipment release operations. Currently Building 439 is currently used to store equipment, as a break room, and general offices in support of Building 440 operations.

Building 462

Building 462 is the evaporative cooling tower for Building 460. The cooling system consists of both an open loop and closed loop system interconnected by a heat exchanger. Nalco 2536 is added to the cooling water to prevent rust build-up and Nalco 2590 is added to the cooling water for alga control. Sodium Hypochlorite is used as a fungicide and biocide.

Building 668

Building 668 is the Drum Certification Building. Building 668 was originally used to seal fiberglass-coated wood waste crates after being filled with low level waste. The crates were sealed using fiberglass matting and sprayed on fiberglass resin. This operation was moved to Building 664 in the 1980's and the building was then used to inspect, number, label, and certify new waste crates and waste drums prior to being sent to the production buildings to be filled with waste. Although the waste crates sealing operations that occurred in the early days of operation did contain radioactive waste, the waste containers were never opened, they were only permanently sealed prior to shipment. There is no evidence of any radiological contamination related to this event. Polyester resins and cleaning solvents were used in the fiberglass operations.

Trailer T664A

Trailer T664 is a general office trailer, which has historically, be used to house management and administrative personnel in support of waste storage and shipping operation conducted in Buildings 440 and 664.

Current Operational Status

Buildings 460, 439, 462 and Trailer T664A are all operational. Building 668 is not operational, but has some old equipment and supplies related to past operation, which need to be cleaned out.

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Contaminants of Concern
<p>Asbestos <i>Describe any potential, likely, or known sources of Asbestos:</i></p> <p>Building 668 is posted as containing asbestos, T664A is posted as possibly containing asbestos. The Industrial Hygiene Group (IH) has collected some asbestos data on Building 460. Contact IH for a copy of this information.</p>
<p>Beryllium (Be) <i>Describe any potential, likely, or known Be production or storage locations:</i></p> <p>The only facility on the List of Historic and Present Be Areas is the High Bay area of Building 460. The High Bay area is list based on historical information that beryllium copper plates where occasionally polished in the high bay area. The UBC section of the HRR states that Be may have occasionally been handled in Building 439. No evidence of this was found.</p> <p><i>Summarize any recent Be sampling results:</i></p> <p>There have been no recent Be samples collected on any of these facilities.</p>
<p>Lead <i>Describe any potential, likely, or known sources of Lead (e.g., paint, shielding, etc.):</i></p> <p>Based on the age of some of the facilities addressed in this HSA, lead in paint may be a concern. No processes containing lead were conducted in these facilities.</p>

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RCRA/CERCLA Constituents

Describe any potential, likely, or known sources of RCRA/CERCLA constituents (e.g., chemical storage, waste storage, and processes):

Building 460 was a major non-nuclear manufacturing facility and used chemicals such as acids, bases and solvents. Metals contamination of these chemicals did occur as part of the machining and fabrication operations (i.e. chromium). Building 460 had several permitted RCRA units associated with these activities. These RCRA units have been closed. Building 460 is currently a permitted LLW and mixed waste Storage facility. Historically, Building 439 was used as a machine shop to support Building 440 operations and other maintenance operations in the 400 area. No significant amounts of RCRA or CERCLA Constituents were handled in this facility. See the Historical operations section above for a more detailed listing of the operations which occurred in the facilities addressed in this HSA.

Building 460 had the following permitted storage areas. All RCRA units have been closed in accordance with the "RCRA Closure Plan for the B460 Process Waste System"

39.03 - Fabric Filtration Unit
40.08 - Process Waste Tank T-1
40.09 - Process Waste Tank T-2
40.10 - Filter System Collection Tank T-4
40.11 - Sump Tank ST-1
40.12 - Sump Tank ST-2
40.13 - Sump Tank ST-3
40.14 - Sump Tank ST-4
40.15 - Sump Tank ST-5

Building 460 has the following current permit - MS001- B460 Containerized Storage. This permit is a temporary permit. The final permit is expected to be approved later this year.

Describe any potential, likely, or known spill locations (and sources, if any):

See the Environmental Concerns section below for information about RCRA/CERCLA spills.

Describe methods in which spills were mitigated, if any:

See the Environmental Concerns section below for information about RCRA/CERCLA spills.

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PCBs

Describe any potential, likely, or known sources of PCBs (e.g., light ballasts, paints, equipment, etc.):

No PCB containing process where housed in any of the facilities addressed in this HSA. Based on the age of construction of some of these facilities, PCBs in paint may be a concern.

Describe any potential, likely, or known spill locations (and sources, if any):

No PCB spills occurred in any of the facilities addressed in this HSA.

Describe methods in which spills were mitigated, if any:

No PCB spills occurred in any of the facilities addressed in this HSA.

Radiological Contaminants

Describe any potential, likely, or known radiological production or storage locations:

Building 460 recently became a LLW storage facility. In the past Building 668 housed fiberglass operations used to seal LLW waste crates. Historically, Building 439 was primarily a machine shop in support of Building 440 operation. The UBC section of the HRR states that uranium, on limited occasions, may have been handled in Building 439. No evidence of this was found. See the Historical operations section above for a more detailed listing of the operations which occurred in the facilities addressed in this HSA.

Describe any potential, likely, or known spill locations (e.g., known leaking sealed radioactive sources, leaking waste drums, potentially contaminated drains, etc.):

None of the facilities in this HSA have had a radiological spill.

Describe methods in which spills were mitigated, if any:

None of the facilities in this HSA have had a radiological spill.

Describe any potential, likely, or known isotopes of concern (e.g., weapons grade plutonium, uranium isotopes, pure beta emitters, mixed fission products, etc.):

Isotopes of concern include uranium and plutonium.

Describe any potential, likely, or known external facility contamination (e.g., stack release points, unfiltered ventilation, facility's physical location to known site releases, etc.):

See section below for information on IHSSs PACs, and UBCs.

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Environmental Restoration Concerns

Describe any ER concerns that could affect facility characterization (e.g., IHSSs, PACs, UBCs):

Building 460 is associated with or located near the following IHSSs, PACs, or UBCs. See individual IHSS, PAC, or UBC report for additional information.

- 1) 400-136.1, "Cooling Tower Pond East of Building 444", Active.
- 2) 400-157.2, "Radioactive site South Area", Active.
- 3) 400-205, "Building 460 Sump No. 3, Acid Side". Active.
- 4) 400-804, "Road North of Building 460", Active.
- 5) 400-812, "Tank T-2 Spill in Building 460, Proposed NFA in 2001.
- 6) 400-813, "RCRA Tank Leak in Building 460, Active.
- 7) 400-815, "RCRA Tank Leak in Building 460, Active.

Building 439 is associated with or located near the following IHSSs, PACs, or UBCs. See individual IHSS, PAC, or UBC report for additional information.

- 1) 400-157.2, "Radioactive site South Area", Active.

Building 439 is identified as a UBC because it housed modification and machining operations, which may have involved deleted uranium or beryllium.

Building 668 is associated with or located near the following IHSSs, PACs, or UBCs. See individual IHSS, PAC, or UBC report for additional information.

- 1) 600-120.1, "Fiberglass area north of Building 664 ", Active.

Building 462, and Trailer T664A are not associated any IHSS, PAC, or UBC

Additional Information

Describe any additional information that may be useful during facility characterization (e.g., contaminant migration routes, waste handling operations, physical hazards, Historical Release Reports, WSRIC data, etc.):

None

References

Provide all sources of information utilized to gather data for facility history (e.g., documents, files, interviews):

Sources reviewed to complete this HSA were the RFETS Facility List, the Historical Release Report, Site Master List of RCRA Units, and the Site IHSS, PAC, and UBC databases. The WSRIC for those buildings with a WSRIC. In addition, a facility walkdown and interviews were performed.

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Waste Volume Estimates and Material Types							
Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste (cu ft)
Building 460	42,400	0	73,000	24,000	20,600	TBD	N/A
Building 439	2500	0	1200	1600	300	TBD	N/A
Building 462	250	0	1000	0	0	TBD	N/A
Building 668	750	1000	100	0	0	TBD	N/A
Trailer T664A	0	1,100	800	1000	1,500	TBD	N/A
Further Actions <i>Recommend any further actions, if any (e.g., characterization, decontamination, special handling, etc.):</i> Begin the RLC/PDS process.							
Note: This HSA was performed prior to SME walkdowns, and chemical and radiological characterization package preparations. SMEs should evaluate and/or verify all information during the RLC/PDS process. SMEs may need to review additional documentation and perform additional interviews. Information contained in this HSA only represents a "snapshot" in time. Subsequent data may be obtained during SME walkdowns and chemical and radiological characterization package preparations, which may conflict with this report. However, this report will not be amended, and the newer data will take precedence over the data in this report. Newer Data will appear in the RLCR/PDSR.							

Prepared By: Doug Bryant / /s/ / October 2002
Name
Signature
Date

ATTACHMENT C

Radiological Data Summaries and Survey Maps

Survey Area: 5**Survey Unit:** 460002**Building:** 460**Description:** Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 151

Nbr Biased Measurements Required: 45

Nbr QC Required: 8

Nbr Random Measurements Performed: 151

Nbr Biased Measurements Performed: 51

Nbr QC Performed: 9

Alpha

Maximum: 83.6 dpm/100cm²Minimum: -13.3 dpm/100cm²Mean: 15.7 dpm/100cm²

Standard Deviation: 18.7

QC Maximum: 42.2 dpm/100cm²QC Minimum: 16.9 dpm/100cm²QC Mean: 33.2 dpm/100cm²Transuranic DCGL_w: 100.0 dpm/100cm²Transuranic DCGL_{EMC}: 300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 151

Nbr Biased Measurements Required: 45

Nbr Random Measurements Performed: 151

Nbr Biased Measurements Performed: 51

Alpha

Maximum: 6.4 dpm/100cm²Minimum: -1.8 dpm/100cm²Mean: 0.3 dpm/100cm²

Standard Deviation: 1.4

Transuranic DCGL_w: 20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	711447	03/02/05	Electra	657	AP-6	06/13/05	0.184	NA	48.0	NA	S
2	712467	03/02/05	Electra	673	AP-6	07/24/05	0.173	NA	48.0	NA	S
3	711447	03/03/05	Electra	657	AP-6	06/13/05	0.184	NA	48.0	NA	S
4	712467	03/03/05	Electra	2340	DP-6	05/15/05	0.222	NA	48.0	NA	T
5	712467	03/03/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
6	712467	03/03/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R
7	712467	03/15/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
8	511390	03/15/05	Electra	1366	DP-6	04/05/05	0.212	NA	48.0	NA	T/S
9	511390	03/16/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
10	511390	03/16/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R
11	711447	03/08/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
12	712193	03/08/05	Electra	1366	DP-6	04/05/05	0.212	NA	48.0	NA	T/S
13	511390	03/09/05	Electra	2340	DP-6	05/15/05	0.222	NA	48.0	NA	T/S
14	511390	03/09/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
15	511390	03/09/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R
16	511390	03/23/05	Electra	3109	DP-6	06/13/05	0.215	NA	48.0	NA	T/S
17	515538	03/23/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
18	701418	03/23/05	Electra	2352	DP-6	06/09/05	0.221	NA	48.0	NA	T/S
19	515538	03/23/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
20	511390	03/28/05	Electra	3370	DP-6	07/27/05	0.213	NA	48.0	NA	T/S
21	515538	03/28/05	Electra	2352	DP-6	06/09/05	0.221	NA	48.0	NA	T/S
22	511390	03/28/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
23	511390	03/28/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R
24	511390	03/29/05	Electra	657	AP-6	06/13/05	0.184	NA	48.0	NA	S
25	701418	03/29/05	Electra	673	AP-6	07/24/05	0.173	NA	48.0	NA	S
26	515538	03/29/05	Electra	3109	DP-6	06/13/05	0.215	NA	48.0	NA	T
27	511390	03/29/05	Electra	3254	DP-6	07/04/05	0.225	NA	48.0	NA	T/Q
28	701418	03/29/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
29	701418	03/29/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior, - North Offices, High Bay & Loading Dock Areas

Comments Sheet

General
Comments: 1. Locations 152-173 were taken inside the overhead supply ventilation ducts.
2. Locations 174-176 were taken inside the machine exhaust duct.
3. Locations 177-182 were taken inside the exhaust plenum in Room 226 and are not shown on the map.
4. Locations 185-189, 197 and 198 were taken on roof ventilation openings and are not shown on the map.
5. Locations 190-196, and 199-202 were taken on loading docks.

TSA N/A
Comments:

RSA N/A
Comments:

Media N/A
Comments:

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PRP-N001	9	-0.3	N/A	N/A
460002PRP-N002	22	-0.6	N/A	N/A
460002PRP-N003	19	0.3	N/A	N/A
460002PRP-N004	19	-1.2	N/A	N/A
460002PRP-N005	10	1.2	N/A	N/A
460002PRP-N006	28	0.6	N/A	N/A
460002PRP-N007	5	-0.3	N/A	N/A
460002PRP-N008	19	-1.2	N/A	N/A
460002PRP-N009	22	-0.6	N/A	N/A
460002PRP-N010	22	-0.6	N/A	N/A
460002PRP-N011	9	1.2	N/A	N/A
460002PRP-N012	19	-1.2	N/A	N/A
460002PRP-N013	23	-1.2	N/A	N/A
460002PRP-N014	6	2.1	N/A	N/A
460002PRP-N015	19	-1.2	N/A	N/A
460002PRP-N016	28	-0.9	N/A	N/A
460002PRP-N017	6	0.6	N/A	N/A
460002PRP-N018	19	1.8	N/A	N/A
460002PRP-N019	19	0.3	N/A	N/A
460002PRP-N020	5	1.2	N/A	N/A
460002PRP-N021	6	-0.9	N/A	N/A
460002PRP-N022	28	-0.9	N/A	N/A
460002PRP-N023	5	-0.3	N/A	N/A
460002PRP-N024	6	-0.9	N/A	N/A
460002PRP-N025	22	-0.6	N/A	N/A
460002PRP-N026	10	-0.3	N/A	N/A
460002PRP-N027	19	-1.2	N/A	N/A
460002PRP-N028	9	1.2	N/A	N/A
460002PRP-N029	10	1.2	N/A	N/A

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PRP-N030	23	-1.2	N/A	N/A
460002PRP-N031	19	3.3	N/A	N/A
460002PRP-N032	9	4.2	N/A	N/A
460002PRP-N033	19	1.8	N/A	N/A
460002PRP-N034	6	2.1	N/A	N/A
460002PRP-N035	19	1.8	N/A	N/A
460002PRP-N036	22	-0.6	N/A	N/A
460002PRP-N037	19	-1.2	N/A	N/A
460002PRP-N038	5	-0.3	N/A	N/A
460002PRP-N039	10	-0.3	N/A	N/A
460002PRP-N040	6	0.6	N/A	N/A
460002PRP-N041	5	-0.3	N/A	N/A
460002PRP-N042	5	1.2	N/A	N/A
460002PRP-N043	28	0.6	N/A	N/A
460002PRP-N044	5	1.2	N/A	N/A
460002PRP-N045	6	-0.9	N/A	N/A
460002PRP-N046	9	2.7	N/A	N/A
460002PRP-N047	6	0.6	N/A	N/A
460002PRP-N048	28	-0.9	N/A	N/A
460002PRP-N049	5	-0.3	N/A	N/A
460002PRP-N050	5	-0.3	N/A	N/A
460002PRP-N051	10	-0.3	N/A	N/A
460002PRP-N052	5	2.7	N/A	N/A
460002PRP-N053	6	0.6	N/A	N/A
460002PRP-N054	19	0.3	N/A	N/A
460002PRP-N055	9	-0.3	N/A	N/A
460002PRP-N056	10	-0.3	N/A	N/A
460002PRP-N057	19	-1.2	N/A	N/A
460002PRP-N058	9	4.2	N/A	N/A

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PRP-N059	19	1.8	N/A	N/A
460002PRP-N060	5	-0.3	N/A	N/A
460002PRP-N061	6	-0.9	N/A	N/A
460002PRP-N062	28	-0.9	N/A	N/A
460002PRP-N063	22	-0.6	N/A	N/A
460002PRP-N064	19	0.3	N/A	N/A
460002PRP-N065	29	0.3	N/A	N/A
460002PRP-N066	6	-0.9	N/A	N/A
460002PRP-N067	5	-0.3	N/A	N/A
460002PRP-N068	6	-0.9	N/A	N/A
460002PRP-N069	5	1.2	N/A	N/A
460002PRP-N070	22	-0.6	N/A	N/A
460002PRP-N071	6	2.1	N/A	N/A
460002PRP-N072	10	-0.3	N/A	N/A
460002PRP-N073	6	-0.9	N/A	N/A
460002PRP-N074	22	-0.6	N/A	N/A
460002PRP-N075	9	1.2	N/A	N/A
460002PRP-N076	23	-1.2	N/A	N/A
460002PRP-N077	5	1.2	N/A	N/A
460002PRP-N078	10	-1.8	N/A	N/A
460002PRP-N079	22	-0.6	N/A	N/A
460002PRP-N080	19	-1.2	N/A	N/A
460002PRP-N081	22	-0.6	N/A	N/A
460002PRP-N082	22	-0.6	N/A	N/A
460002PRP-N083	23	1.8	N/A	N/A
460002PRP-N084	9	1.2	N/A	N/A
460002PRP-N085	6	-0.9	N/A	N/A
460002PRP-N086	22	-0.6	N/A	N/A
460002PRP-N087	19	-1.2	N/A	N/A

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PRP-N088	5	-0.3	N/A	N/A
460002PRP-N089	29	6.4	N/A	N/A
460002PRP-N090	6	-0.9	N/A	N/A
460002PRP-N091	23	-1.2	N/A	N/A
460002PRP-N092	19	0.3	N/A	N/A
460002PRP-N093	10	-1.8	N/A	N/A
460002PRP-N094	23	-1.2	N/A	N/A
460002PRP-N095	23	-1.2	N/A	N/A
460002PRP-N096	22	-0.6	N/A	N/A
460002PRP-N097	19	-1.2	N/A	N/A
460002PRP-N098	19	0.3	N/A	N/A
460002PRP-N099	9	1.2	N/A	N/A
460002PRP-N100	10	-1.8	N/A	N/A
460002PRP-N101	19	1.8	N/A	N/A
460002PRP-N102	9	2.7	N/A	N/A
460002PRP-N103	19	1.8	N/A	N/A
460002PRP-N104	19	-1.2	N/A	N/A
460002PRP-N105	5	-0.3	N/A	N/A
460002PRP-N106	10	-0.3	N/A	N/A
460002PRP-N107	19	-1.2	N/A	N/A
460002PRP-N108	6	-0.9	N/A	N/A
460002PRP-N109	19	-1.2	N/A	N/A
460002PRP-N110	6	0.6	N/A	N/A
460002PRP-N111	5	-0.3	N/A	N/A
460002PRP-N112	6	-0.9	N/A	N/A
460002PRP-N113	19	-1.2	N/A	N/A
460002PRP-N114	29	0.3	N/A	N/A
460002PRP-N115	5	2.7	N/A	N/A
460002PRP-N116	5	-0.3	N/A	N/A

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PRP-N117	23	1.8	N/A	N/A
460002PRP-N118	22	-0.6	N/A	N/A
460002PRP-N119	6	-0.9	N/A	N/A
460002PRP-N120	5	-0.3	N/A	N/A
460002PRP-N121	9	-0.3	N/A	N/A
460002PRP-N122	29	-1.2	N/A	N/A
460002PRP-N123	19	-1.2	N/A	N/A
460002PRP-N124	10	-0.3	N/A	N/A
460002PRP-N125	23	1.8	N/A	N/A
460002PRP-N126	9	-0.3	N/A	N/A
460002PRP-N127	6	0.6	N/A	N/A
460002PRP-N128	5	-0.3	N/A	N/A
460002PRP-N129	10	-0.3	N/A	N/A
460002PRP-N130	29	-1.2	N/A	N/A
460002PRP-N131	23	-1.2	N/A	N/A
460002PRP-N132	23	-1.2	N/A	N/A
460002PRP-N133	9	2.7	N/A	N/A
460002PRP-N134	19	-1.2	N/A	N/A
460002PRP-N135	19	3.3	N/A	N/A
460002PRP-N136	23	-1.2	N/A	N/A
460002PRP-N137	29	-1.2	N/A	N/A
460002PRP-N138	10	1.2	N/A	N/A
460002PRP-N139	19	1.8	N/A	N/A
460002PRP-N140	6	0.6	N/A	N/A
460002PRP-N141	19	3.3	N/A	N/A
460002PRP-N142	5	-0.3	N/A	N/A
460002PRP-N143	23	-1.2	N/A	N/A
460002PRP-N144	9	1.2	N/A	N/A
460002PRP-N145	23	-1.2	N/A	N/A

Survey Area: 5**Survey Unit:** 460002**Building:** 460**Description:** Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PRP-N146	6	-0.9	N/A	N/A
460002PRP-N147	5	-0.3	N/A	N/A
460002PRP-N148	19	-1.2	N/A	N/A
460002PRP-N149	6	0.6	N/A	N/A
460002PRP-N150	5	1.2	N/A	N/A
460002PRP-N151	23	-1.2	N/A	N/A

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PBP-N152	14	1.5	N/A	N/A
460002PBP-N153	15	0.3	N/A	N/A
460002PBP-N154	14	1.5	N/A	N/A
460002PBP-N155	15	-1.2	N/A	N/A
460002PBP-N156	14	0.0	N/A	N/A
460002PBP-N157	15	0.3	N/A	N/A
460002PBP-N158	14	1.5	N/A	N/A
460002PBP-N159	15	-1.2	N/A	N/A
460002PBP-N160	14	3.0	N/A	N/A
460002PBP-N161	15	0.3	N/A	N/A
460002PBP-N162	14	3.0	N/A	N/A
460002PBP-N163	15	0.3	N/A	N/A
460002PBP-N164	14	3.0	N/A	N/A
460002PBP-N165	15	0.3	N/A	N/A
460002PBP-N166	14	1.5	N/A	N/A
460002PBP-N167	15	-1.2	N/A	N/A
460002PBP-N168	14	1.5	N/A	N/A
460002PBP-N169	15	0.3	N/A	N/A
460002PBP-N170	14	0.0	N/A	N/A
460002PBP-N171	15	-1.2	N/A	N/A
460002PBP-N172	14	0.0	N/A	N/A
460002PBP-N173	15	-1.2	N/A	N/A
460002PBP-N174	14	1.5	N/A	N/A
460002PBP-N175	15	0.3	N/A	N/A
460002PBP-N176	14	1.5	N/A	N/A
460002PBP-N177	15	1.8	N/A	N/A
460002PBP-N178	14	3.0	N/A	N/A

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PBP-N179	15	0.3	N/A	N/A
460002PBP-N180	14	3.0	N/A	N/A
460002PBP-N181	15	1.8	N/A	N/A
460002PBP-N182	14	3.0	N/A	N/A
460002PBP-N183	19	-1.2	N/A	N/A
460002PBP-N184	19	-1.2	N/A	N/A
460002PBP-N185	28	-0.9	N/A	N/A
460002PBP-N186	29	1.8	N/A	N/A
460002PBP-N187	29	1.8	N/A	N/A
460002PBP-N188	29	1.8	N/A	N/A
460002PBP-N189	28	0.6	N/A	N/A
460002PBP-N190	29	1.8	N/A	N/A
460002PBP-N191	28	-0.9	N/A	N/A
460002PBP-N192	28	0.6	N/A	N/A
460002PBP-N193	28	0.6	N/A	N/A
460002PBP-N194	29	1.8	N/A	N/A
460002PBP-N195	28	0.6	N/A	N/A
460002PBP-N196	29	0.3	N/A	N/A
460002PBP-N197	28	-0.9	N/A	N/A
460002PBP-N198	29	-1.2	N/A	N/A
460002PBP-N199	29	1.8	N/A	N/A
460002PBP-N200	28	-0.9	N/A	N/A
460002PBP-N201	29	1.8	N/A	N/A
460002PBP-N202	28	5.2	N/A	N/A

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PRP-N001	7	-3.4	N/A	N/A
460002PRP-N002	20	37.6	N/A	N/A
460002PRP-N003	18	14.3	N/A	N/A
460002PRP-N004	18	26.5	N/A	N/A
460002PRP-N005	7	3.1	N/A	N/A
460002PRP-N006	4	21.8	N/A	N/A
460002PRP-N007	4	35.4	N/A	N/A
460002PRP-N008	18	17.5	N/A	N/A
460002PRP-N009	20	-9.3	N/A	N/A
460002PRP-N010	20	22.1	N/A	N/A
460002PRP-N011	7	9.1	N/A	N/A
460002PRP-N012	16	37.1	N/A	N/A
460002PRP-N013	20	12.8	N/A	N/A
460002PRP-N014	4	11.5	N/A	N/A
460002PRP-N015	16	15.3	N/A	N/A
460002PRP-N016	27	2.2	N/A	N/A
460002PRP-N017	4	47.5	N/A	N/A
460002QRP-N017	27	30.2	N/A	N/A
460002PRP-N018	18	35.6	N/A	N/A
460002PRP-N019	18	20.7	N/A	N/A
460002PRP-N020	4	-9.7	N/A	N/A
460002PRP-N021	4	38.5	N/A	N/A
460002QRP-N021	27	27.1	N/A	N/A
460002PRP-N022	18	35.6	N/A	N/A
460002QRP-N022	27	30.2	N/A	N/A
460002PRP-N023	4	8.3	N/A	N/A
460002PRP-N024	4	-3.8	N/A	N/A

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PRP-N025	20	47.0	N/A	N/A
460002PRP-N026	7	-6.2	N/A	N/A
460002PRP-N027	18	23.4	N/A	N/A
460002PRP-N028	8	15.7	N/A	N/A
460002PRP-N029	8	0.2	N/A	N/A
460002PRP-N030	21	16.1	N/A	N/A
460002PRP-N031	16	37.1	N/A	N/A
460002PRP-N032	7	12.3	N/A	N/A
460002PRP-N033	18	35.6	N/A	N/A
460002PRP-N034	4	5.2	N/A	N/A
460002PRP-N035	18	38.8	N/A	N/A
460002PRP-N036	20	6.2	N/A	N/A
460002PRP-N037	18	26.5	N/A	N/A
460002PRP-N038	4	-0.7	N/A	N/A
460002PRP-N039	8	-6.0	N/A	N/A
460002PRP-N040	4	8.3	N/A	N/A
460002PRP-N041	4	14.2	N/A	N/A
460002PRP-N042	4	53.4	N/A	N/A
460002PRP-N043	26	83.6	N/A	N/A
460002PRP-N044	4	-0.7	N/A	N/A
460002PRP-N045	4	2.5	N/A	N/A
460002PRP-N046	8	9.6	N/A	N/A
460002PRP-N047	4	-0.7	N/A	N/A
460002PRP-N048	26	52.5	N/A	N/A
460002PRP-N049	4	11.5	N/A	N/A
460002PRP-N050	4	32.2	N/A	N/A
460002PRP-N051	8	-3.1	N/A	N/A

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PRP-N052	4	14.2	N/A	N/A
460002PRP-N053	4	14.2	N/A	N/A
460002PRP-N054	18	23.4	N/A	N/A
460002PRP-N055	8	3.5	N/A	N/A
460002PRP-N056	7	-3.4	N/A	N/A
460002PRP-N057	18	-0.6	N/A	N/A
460002PRP-N058	7	-0.2	N/A	N/A
460002PRP-N059	18	35.6	N/A	N/A
460002PRP-N060	4	8.3	N/A	N/A
460002PRP-N061	4	5.2	N/A	N/A
460002PRP-N062	21	26.5	N/A	N/A
460002PRP-N063	21	-0.6	N/A	N/A
460002PRP-N064	16	23.2	N/A	N/A
460002PRP-N065	16	37.1	N/A	N/A
460002PRP-N066	4	11.5	N/A	N/A
460002PRP-N067	4	-0.7	N/A	N/A
460002PRP-N068	4	5.2	N/A	N/A
460002PRP-N069	4	2.5	N/A	N/A
460002PRP-N070	4	30.8	N/A	N/A
460002PRP-N071	20	15.6	N/A	N/A
460002PRP-N072	8	22.3	N/A	N/A
460002PRP-N073	4	74.5	N/A	N/A
460002PRP-N074	21	14.3	N/A	N/A
460002QRP-N074	27	42.2	N/A	N/A
460002PRP-N075	8	15.7	N/A	N/A
460002PRP-N076	21	11.6	N/A	N/A
460002PRP-N077	4	-0.7	N/A	N/A

Survey Area: 5**Survey Unit:** 460002**Building:** 460**Description:** Building 460 Interior - North Offices, High Bay & Loading Dock Areas.

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PRP-N078	8	9.6	N/A	N/A
460002PRP-N079	20	25.0	N/A	N/A
460002PRP-N080	16	33.9	N/A	N/A
460002PRP-N081	21	11.6	N/A	N/A
460002PRP-N082	20	0.1	N/A	N/A
460002PRP-N083	21	2.6	N/A	N/A
460002PRP-N084	8	12.9	N/A	N/A
460002PRP-N085	4	14.2	N/A	N/A
460002PRP-N086	20	42.3	N/A	N/A
460002PRP-N087	17	47.5	N/A	N/A
460002QRP-N087	27	33.4	N/A	N/A
460002PRP-N088	4	32.2	N/A	N/A
460002PRP-N089	26	40.4	N/A	N/A
460002PRP-N090	4	8.3	N/A	N/A
460002PRP-N091	21	8.4	N/A	N/A
460002PRP-N092	18	5.3	N/A	N/A
460002PRP-N093	8	12.9	N/A	N/A
460002PRP-N094	20	12.8	N/A	N/A
460002PRP-N095	20	6.2	N/A	N/A
460002PRP-N096	20	34.4	N/A	N/A
460002PRP-N097	17	-0.2	N/A	N/A
460002PRP-N098	16	18.5	N/A	N/A
460002PRP-N099	7	-0.2	N/A	N/A
460002PRP-N100	7	5.8	N/A	N/A
460002PRP-N101	18	44.6	N/A	N/A
460002PRP-N102	8	6.3	N/A	N/A
460002PRP-N103	18	65.9	N/A	N/A

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PRP-N104	18	-3.8	N/A	N/A
460002PRP-N105	4	5.2	N/A	N/A
460002PRP-N106	8	3.5	N/A	N/A
460002PRP-N107	18	11.6	N/A	N/A
460002PRP-N108	4	38.5	N/A	N/A
460002QRP-N108	27	36.0	N/A	N/A
460002PRP-N109	16	6.0	N/A	N/A
460002PRP-N110	4	32.2	N/A	N/A
460002QRP-N110	27	16.9	N/A	N/A
460002PRP-N111	4	-3.8	N/A	N/A
460002PRP-N112	4	29.5	N/A	N/A
460002PRP-N113	18	22.0	N/A	N/A
460002PRP-N114	27	16.9	N/A	N/A
460002PRP-N115	4	11.5	N/A	N/A
460002PRP-N116	4	20.5	N/A	N/A
460002PRP-N117	20	3.4	N/A	N/A
460002PRP-N118	20	4.8	N/A	N/A
460002PRP-N119	4	11.5	N/A	N/A
460002PRP-N120	4	53.4	N/A	N/A
460002PRP-N121	8	15.7	N/A	N/A
460002PRP-N122	27	11.1	N/A	N/A
460002PRP-N123	18	25.2	N/A	N/A
460002PRP-N124	7	3.1	N/A	N/A
460002PRP-N125	20	-4.6	N/A	N/A
460002PRP-N126	7	12.3	N/A	N/A
460002PRP-N127	4	56.5	N/A	N/A
460002QRP-N127	27	40.5	N/A	N/A

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PRP-N128	4	23.2	N/A	N/A
460002PRP-N129	8	0.2	N/A	N/A
460002PRP-N130	27	46.6	N/A	N/A
460002PRP-N131	20	12.8	N/A	N/A
460002PRP-N132	21	35.6	N/A	N/A
460002PRP-N133	7	5.8	N/A	N/A
460002PRP-N134	16	3.2	N/A	N/A
460002PRP-N135	18	17.5	N/A	N/A
460002PRP-N136	20	12.8	N/A	N/A
460002PRP-N137	27	58.2	N/A	N/A
460002PRP-N138	8	12.9	N/A	N/A
460002PRP-N139	18	8.4	N/A	N/A
460002PRP-N140	4	-6.5	N/A	N/A
460002PRP-N141	18	44.6	N/A	N/A
460002PRP-N142	4	14.2	N/A	N/A
460002PRP-N143	21	-0.6	N/A	N/A
460002PRP-N144	7	12.3	N/A	N/A
460002PRP-N145	21	17.5	N/A	N/A
460002PRP-N146	4	23.2	N/A	N/A
460002PRP-N147	4	-6.5	N/A	N/A
460002PRP-N148	18	2.6	N/A	N/A
460002PRP-N149	4	11.5	N/A	N/A
460002PRP-N150	4	17.3	N/A	N/A
460002PRP-N151	21	35.6	N/A	N/A
460002QRP-N151	27	42.2	N/A	N/A

Survey Area: 5

Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PBP-N152	11	0.8	N/A	N/A
460002PBP-N153	12	1.3	N/A	N/A
460002PBP-N154	11	-13.1	N/A	N/A
460002PBP-N155	12	1.3	N/A	N/A
460002PBP-N156	11	-1.9	N/A	N/A
460002PBP-N157	12	10.7	N/A	N/A
460002PBP-N158	11	22.6	N/A	N/A
460002PBP-N159	12	-4.8	N/A	N/A
460002PBP-N160	11	-1.9	N/A	N/A
460002PBP-N161	12	14.0	N/A	N/A
460002PBP-N162	11	-1.9	N/A	N/A
460002PBP-N163	12	-8.1	N/A	N/A
460002PBP-N164	11	-1.9	N/A	N/A
460002PBP-N165	12	-1.5	N/A	N/A
460002PBP-N166	11	-1.9	N/A	N/A
460002PBP-N167	12	-3.4	N/A	N/A
460002PBP-N168	11	7.3	N/A	N/A
460002PBP-N169	12	-4.8	N/A	N/A
460002PBP-N170	13	-13.3	N/A	N/A
460002PBP-N171	13	4.7	N/A	N/A
460002PBP-N172	13	3.3	N/A	N/A
460002PBP-N173	13	-8.8	N/A	N/A
460002PBP-N174	13	0.2	N/A	N/A
460002PBP-N175	13	12.3	N/A	N/A
460002PBP-N176	13	3.3	N/A	N/A
460002PBP-N177	13	12.3	N/A	N/A
460002PBP-N178	13	15.5	N/A	N/A

Survey Area: 5

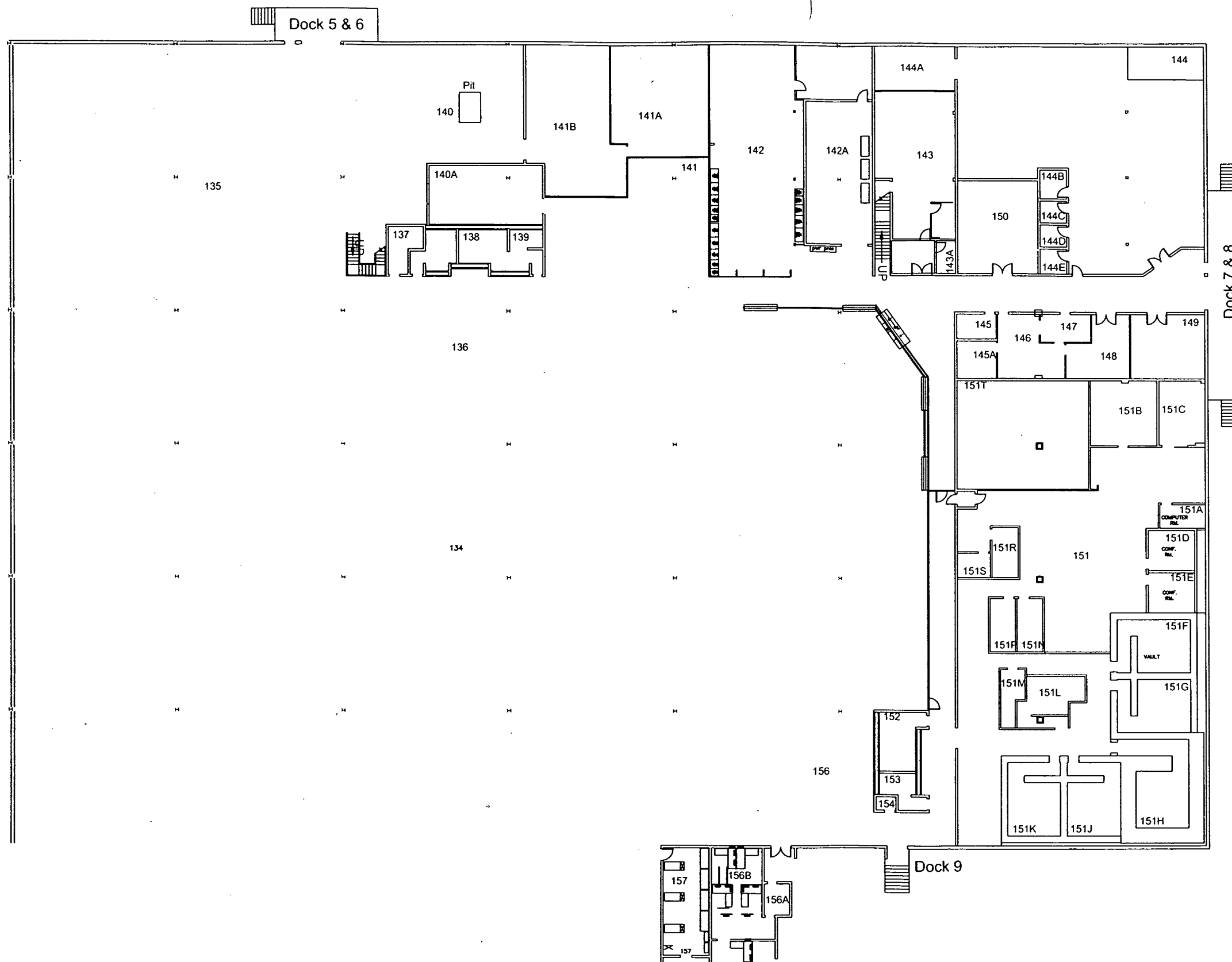
Survey Unit: 460002

Building: 460

Description: Building 460 Interior - North Offices, High Bay & Loading Dock Areas

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460002PBP-N179	13	-7.0	N/A	N/A
460002PBP-N180	13	15.5	N/A	N/A
460002PBP-N181	13	56.0	N/A	N/A
460002PBP-N182	13	18.2	N/A	N/A
460002PBP-N183	18	9.3	N/A	N/A
460002PBP-N184	18	6.6	N/A	N/A
460002PBP-N185	26	28.9	N/A	N/A
460002PBP-N186	27	7.4	N/A	N/A
460002PBP-N187	26	36.8	N/A	N/A
460002PBP-N188	27	65.2	N/A	N/A
460002PBP-N189	26	69.3	N/A	N/A
460002PBP-N190	27	20.7	N/A	N/A
460002PBP-N191	26	22.8	N/A	N/A
460002PBP-N192	27	59.4	N/A	N/A
460002PBP-N193	26	64.7	N/A	N/A
460002PBP-N194	27	16.3	N/A	N/A
460002PBP-N195	26	4.2	N/A	N/A
460002PBP-N196	27	34.1	N/A	N/A
460002PBP-N197	26	-5.1	N/A	N/A
460002PBP-N198	27	-10.4	N/A	N/A
460002PBP-N199	26	12.1	N/A	N/A
460002PBP-N200	27	-2.8	N/A	N/A
460002PBP-N201	26	-1.8	N/A	N/A
460002PBP-N202	27	-1.5	N/A	N/A



KEY MAP

Building 460 North Offices & High Bay
(not intended for showing survey/sample locations)

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<div style="text-align: center;"> <p>0 FEET 45</p> <p>0 METERS 15</p> </div> <p style="font-size: small;">1 inch = 36 feet 1 grid sq. = 1 sq. m.</p>	<div style="text-align: center;"> <p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p style="font-size: x-small;">Prepared by: GIS Dept. 303-966-7707 Prepared for:</p> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>CH2MHILL Communications Group</p> </div> <div style="text-align: center;"> <p>KAISER HILL COMPANY</p> </div> </div> <p style="font-size: x-small; margin-top: 5px;">MAP ID: 03-0000</p>
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RLC SURVEY FOR B460

Survey Area: 5

Survey Unit: 460002

Classification: 3

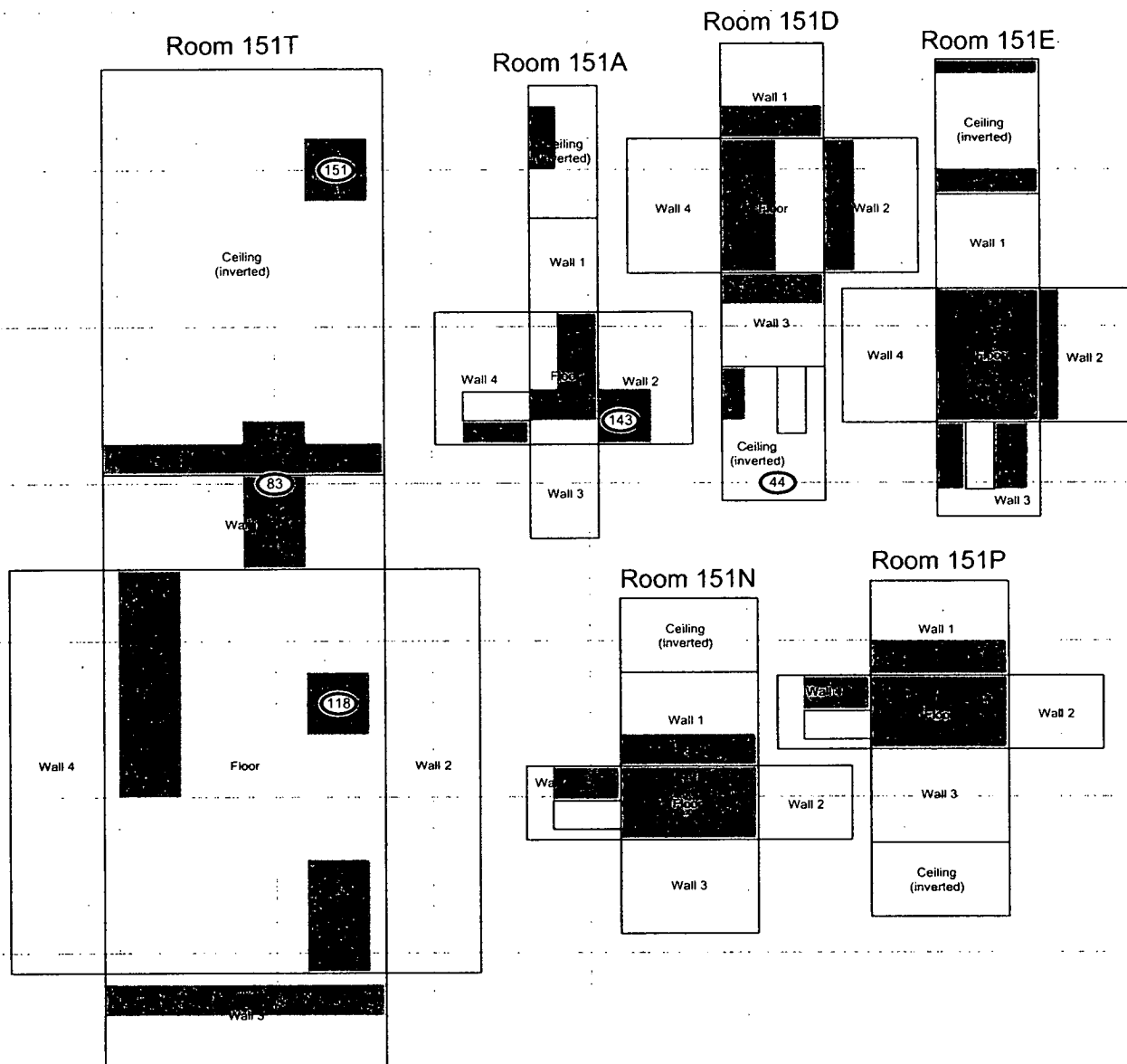
Building: 460

Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas

Total Area: 27,496 sq. m.

Total Floor Area: 10,041 sq. m.

PAGE 1 OF 17



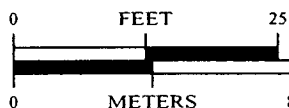
Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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N



1 inch = 18 feet 1 grid sq. = 1 sq. m.

Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



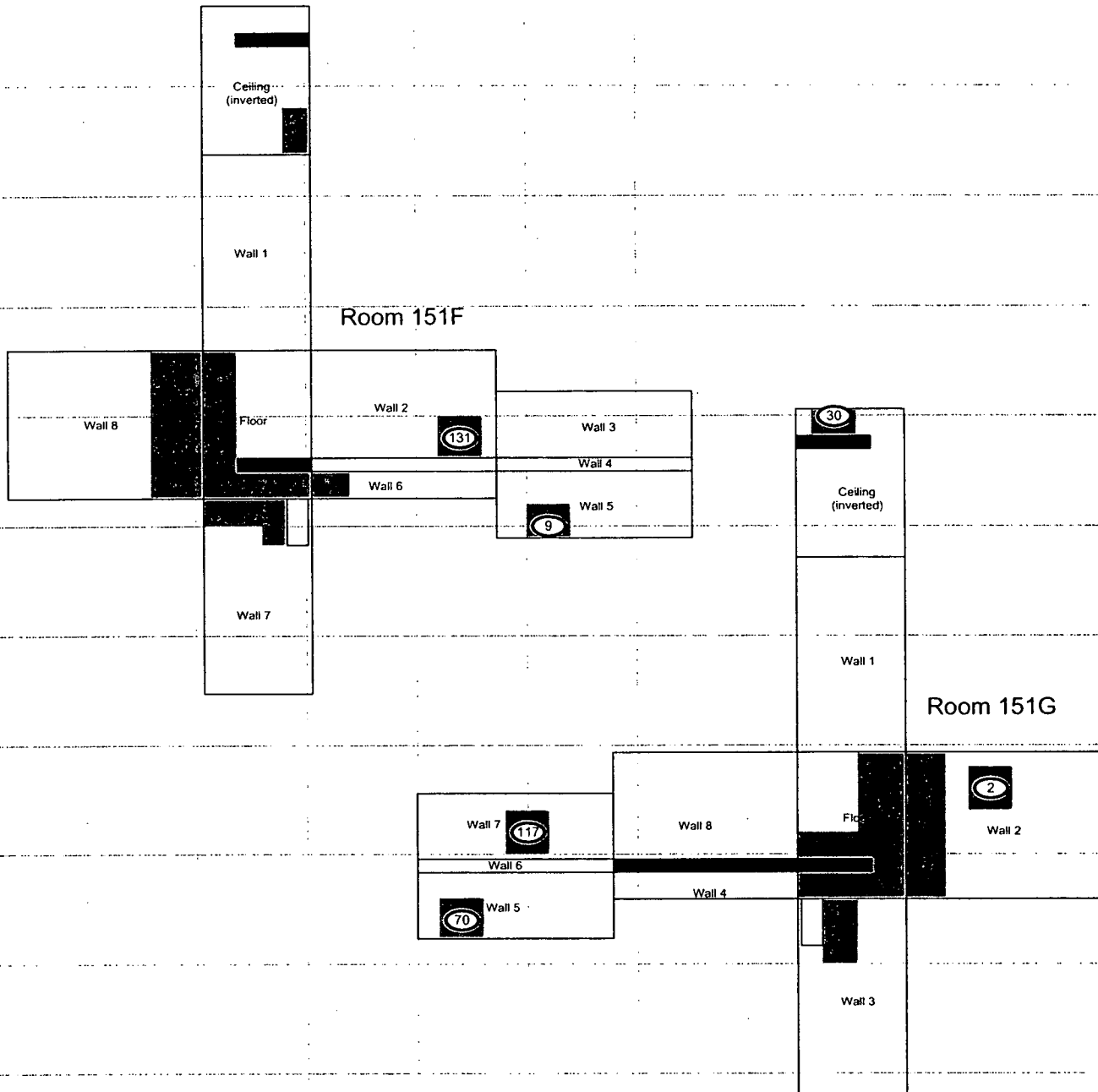
MAP ID: 03-0138460_HB_1_SC

Mar. 31, 2005

RLC SURVEY FOR B460

Survey Area: 5 Survey Unit: 460002 Classification: 3
 Building: 460
 Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas
 Total Area: 27,496 sq. m. Total Floor Area: 10,041 sq. m.

PAGE 2 OF 17



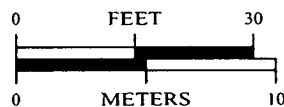
Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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N



1 inch = 24 feet 1 grid sq. = 1 sq. m.

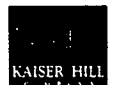
U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group



MAP ID: 03-01381460_HB_2

Mar. 31, 2005

Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
 1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25

RLC SURVEY FOR B460

Survey Area: 5

Survey Unit: 460002

Classification: 3

Building: 460

Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas

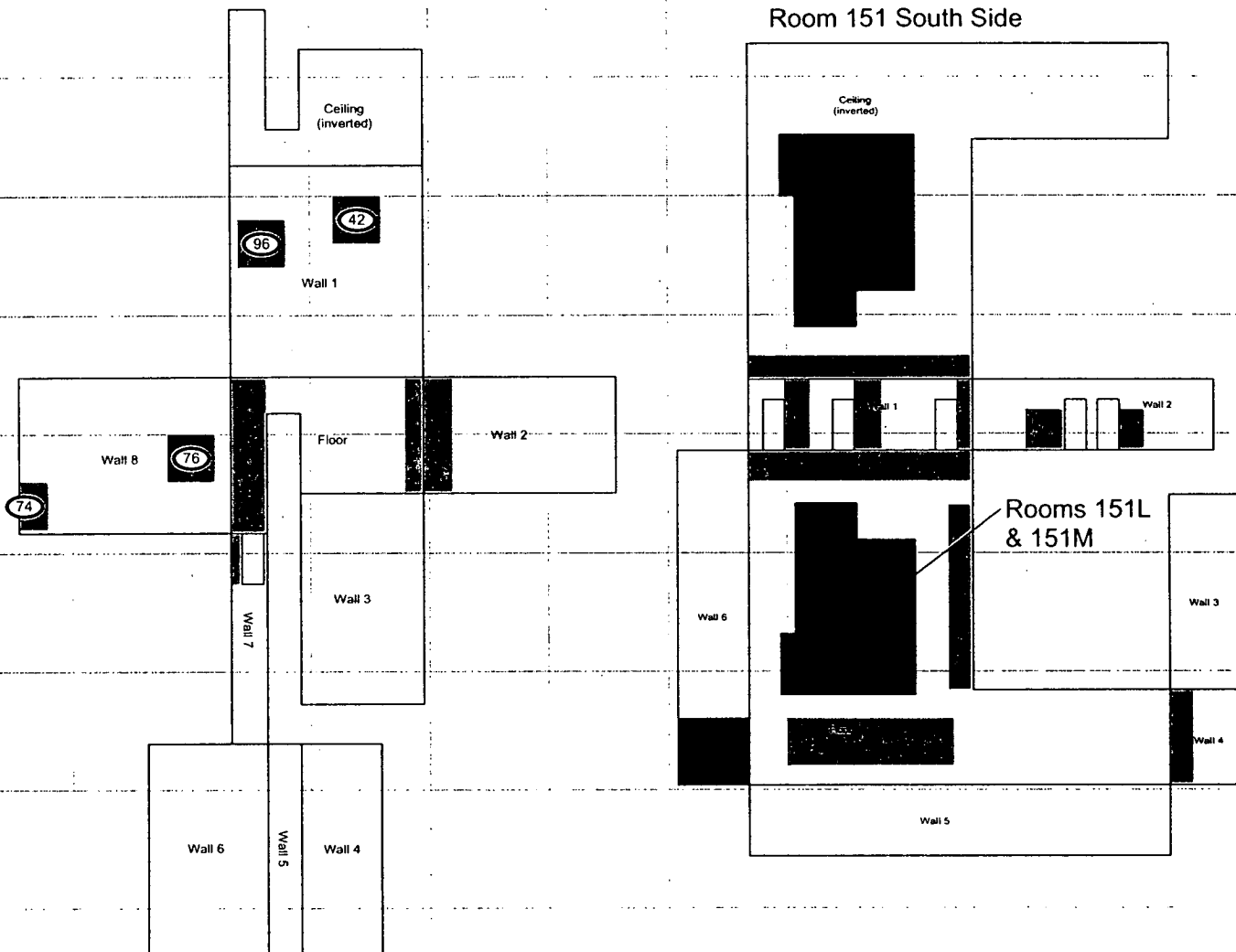
Total Area: 27,496 sq. m.

Total Floor Area: 10,041 sq. m.

PAGE 3 OF 17

Room 151H

Room 151 South Side



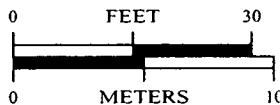
Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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N



1 inch = 24 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



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Communications Group



Mar. 31, 2005

MAP ID: 03-0138V460_HB_3_SC

Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):

1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25

RLC SURVEY FOR B460

Survey Area: 5

Survey Unit: 460002

Classification: 3

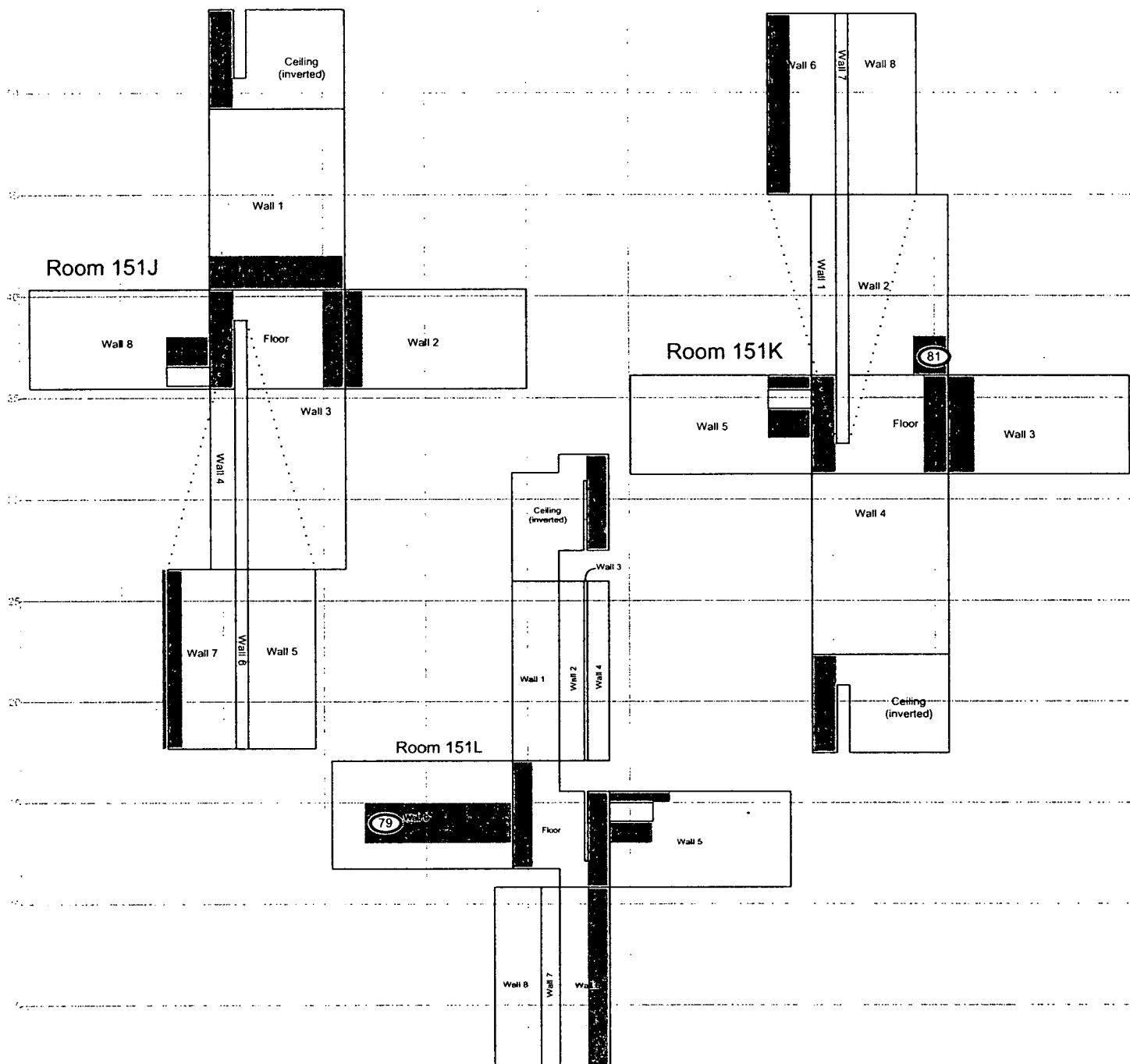
Building: 460

Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas

Total Area: 27,496 sq. m.

Total Floor Area: 10,041 sq. m.

PAGE 4 OF 17



Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25

N



1 inch = 24 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138460_HB_4_SC

Apr. 4, 2005

RLC SURVEY FOR B460

Survey Area: 5

Survey Unit: 460002

Classification: 3

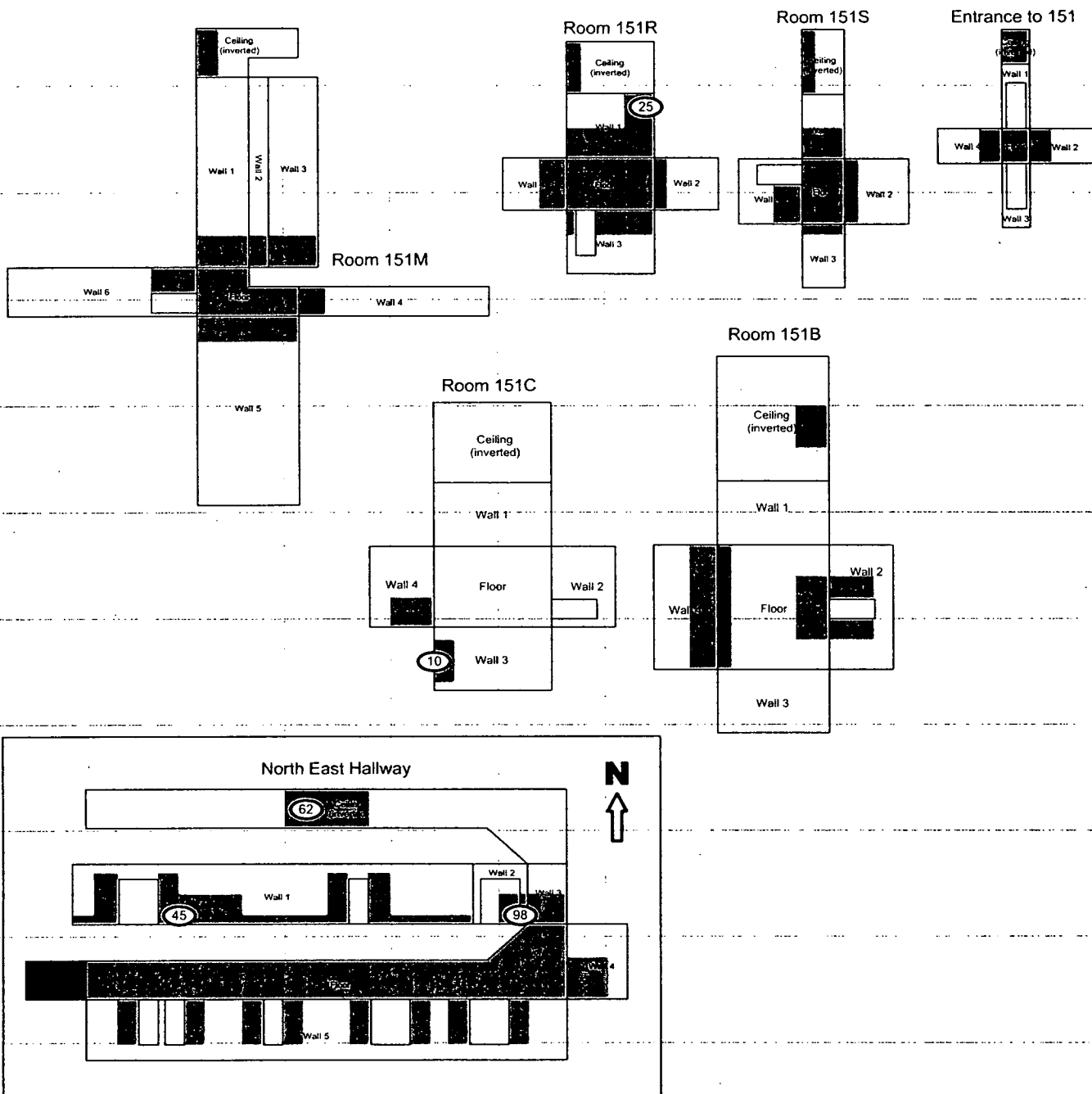
Building: 460

Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas

Total Area: 27,496 sq. m.

Total Floor Area: 10,041 sq. m.

PAGE 5 OF 17



<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Smear & TSA Location Smear, TSA & Sample Location Open/Inaccessible Area Area in Another Survey Unit 	<p>Neither the United States Government nor Kaiser Hill Co., nor DynCorp I&ET, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p> <p>Scan Survey Information</p> <p>Survey Instrument ID #(s) & RCT ID #(s): 1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25</p>	<p>N</p> <p>0 30 FEET</p> <p>0 10 METERS</p> <p>1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIS Dept. 303-966-7707</p> <p>Prepared for:</p> <p>CH2MHILL Communications Group</p> <p>KAISER HILL</p> <p>MAP ID: 03-0138460_HB_5_SC</p> <p>Apr. 4, 2005</p>
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RLC SURVEY FOR B460

Survey Area: 5

Survey Unit: 460002

Classification: 3

Building: 460

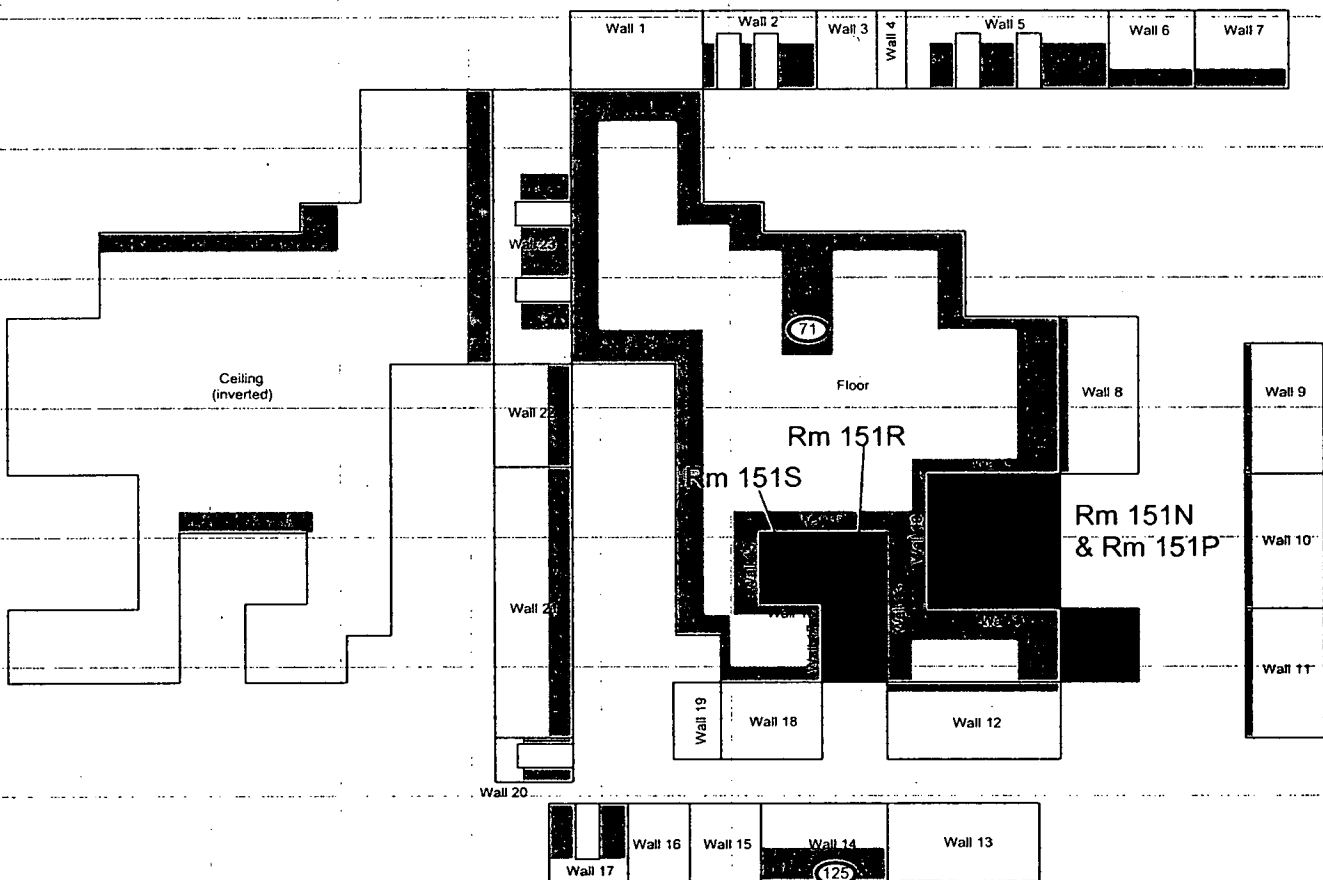
Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas

Total Area: 27,496 sq. m.

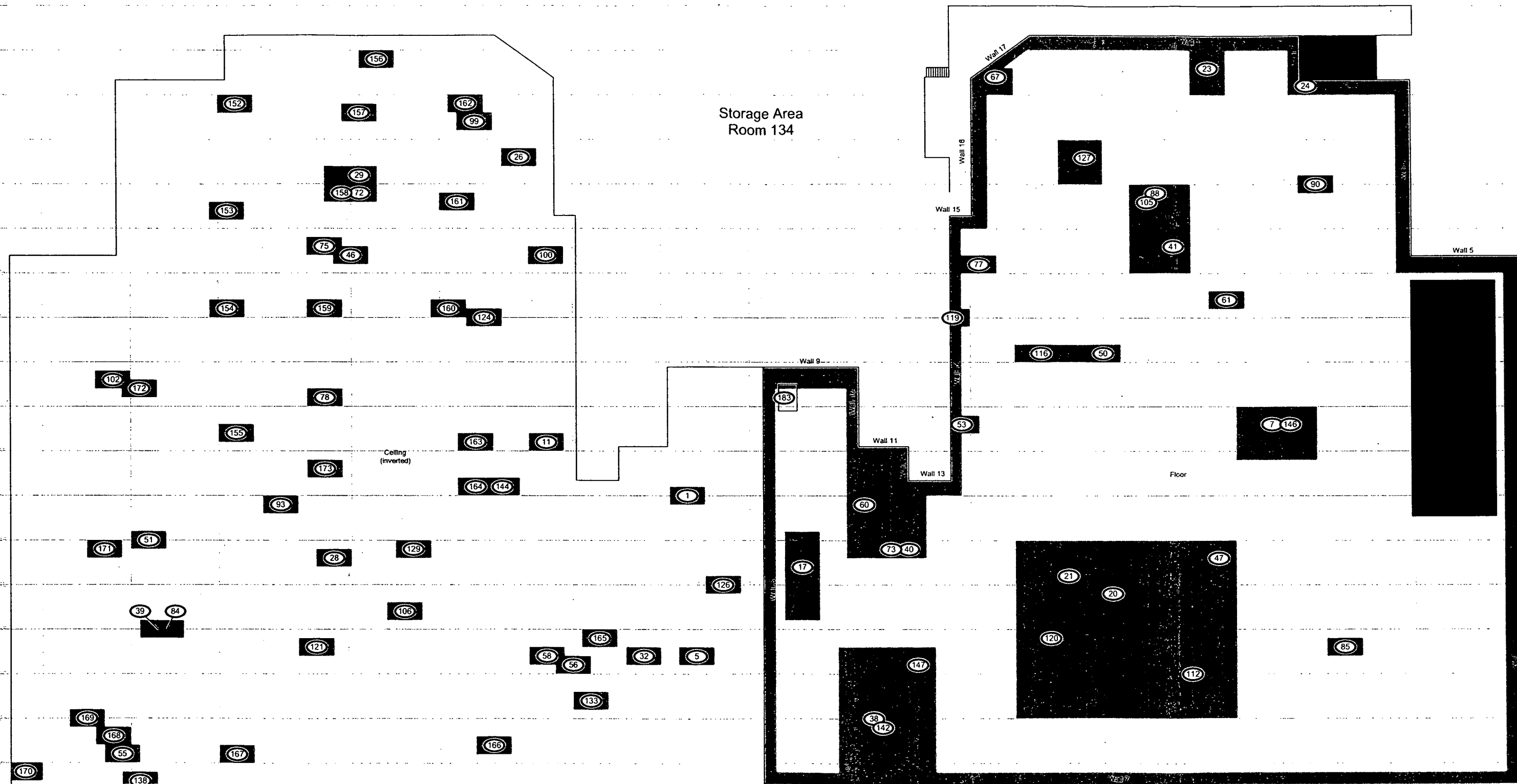
Total Floor Area: 10,041 sq. m.

PAGE 6 OF 17

Room 151



SURVEY MAP LEGEND Smear & TSA Location Smear, TSA & Sample Location Open/Inaccessible Area Area in Another Survey Unit		Neither the United States Government nor Kaiser Hill Co., nor DynCorp I&ET, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.		Scan Survey Information Survey Instrument ID #(s) & RCT ID #(s): 1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25		U.S. Department of Energy Rocky Flats Environmental Technology Site Prepared by: GIS Dept. 303-966-7707 Prepared for:	
1 inch = 24 feet 1 grid sq. = 1 sq. m.		MAP ID: 03-0138 460_HB_6_SC		Apr. 4, 2005		Scan Area	



RLC SURVEY FOR B460

Survey Area: 5 Survey Unit: 460002 Classification: 3
 Building: 460
 Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas
 Total Area: 27,496 sq. m. Total Floor Area: 10,041 sq. m.

PAGE 7 OF 17

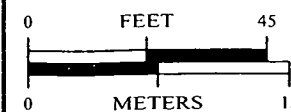
SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25

N



1 inch = 36 feet 1 grid sq. = 1 sq. m.

Scan Area

U.S. Department of Energy Rocky Flats Environmental Technology Site	
Prepared by: GIS Dept. 303-966-7707	Prepared for:
CH2MHILL Communications Group	
MAP ID: 03-01381460_HB_7_SC	Apr. 4, 2005

RLC SURVEY FOR B460

Survey Area: 5

Survey Unit: 460002

Classification: 3

Building: 460

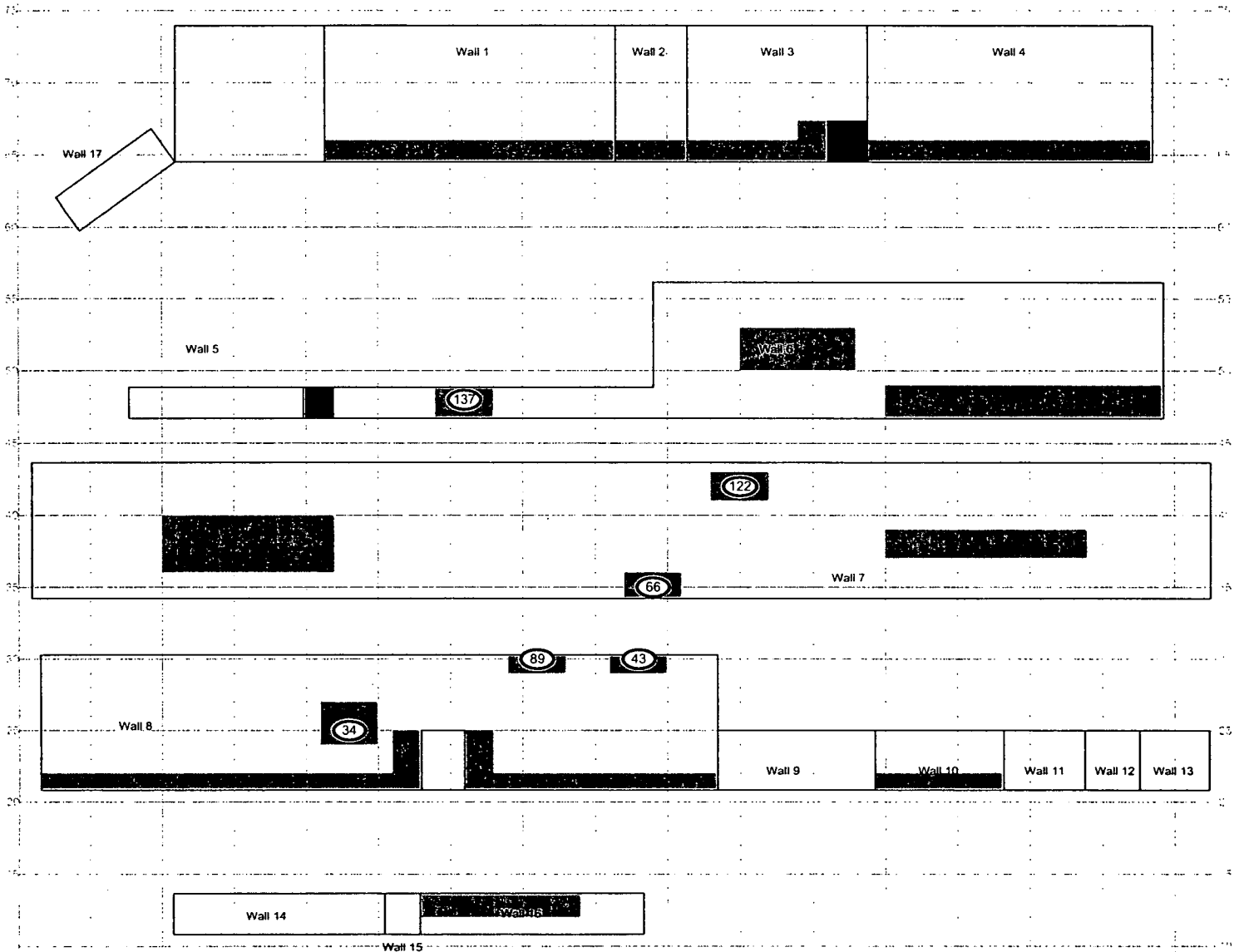
Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas

Total Area: 27,496 sq. m.

Total Floor Area: 10,041 sq. m.

PAGE 8 OF 17

Walls for Room 134



Scan Area

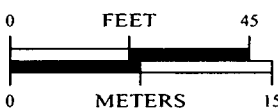
SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25



1 inch = 36 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138/460_HB_8_SC

Apr. 4, 2005

RLC SURVEY FOR B460

Survey Area: 5
Building: 460

Survey Unit: 460002

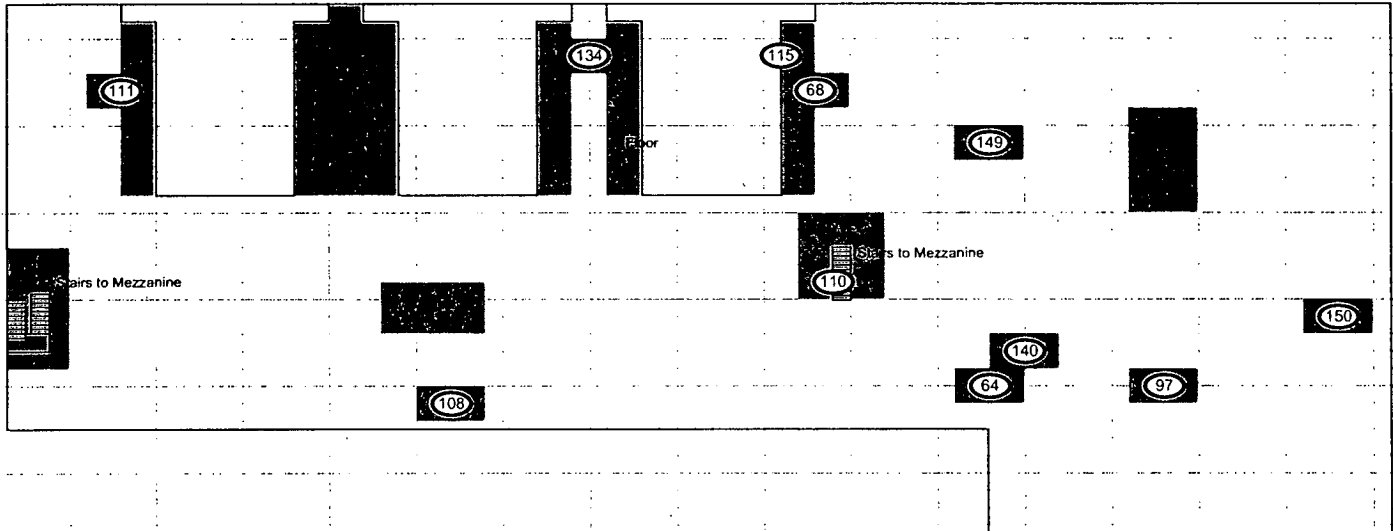
Classification: 3

Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas
Total Area: 27,496 sq. m.

Total Floor Area: 10,041 sq. m.

PAGE 9 OF 17

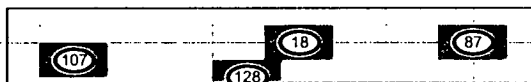
Room Mezzanine



North Wall



East Wall



South Wall



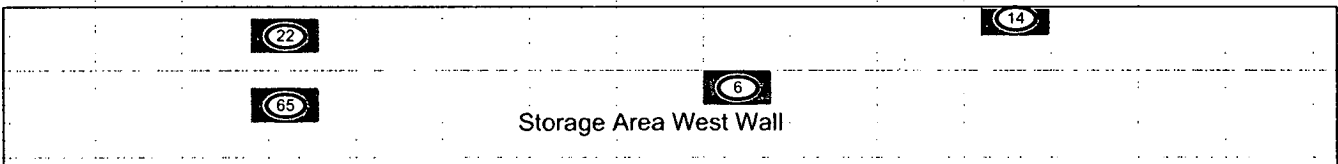
South Wall



West Wall



Storage Area West Wall



SURVEY MAP LEGEND

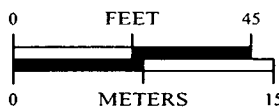
- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25



1 inch = 36 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138V460_HB_9_SC

Apr. 4, 2005

RLC SURVEY FOR B460

Survey Area: 5

Survey Unit: 460002

Classification: 3

Building: 460

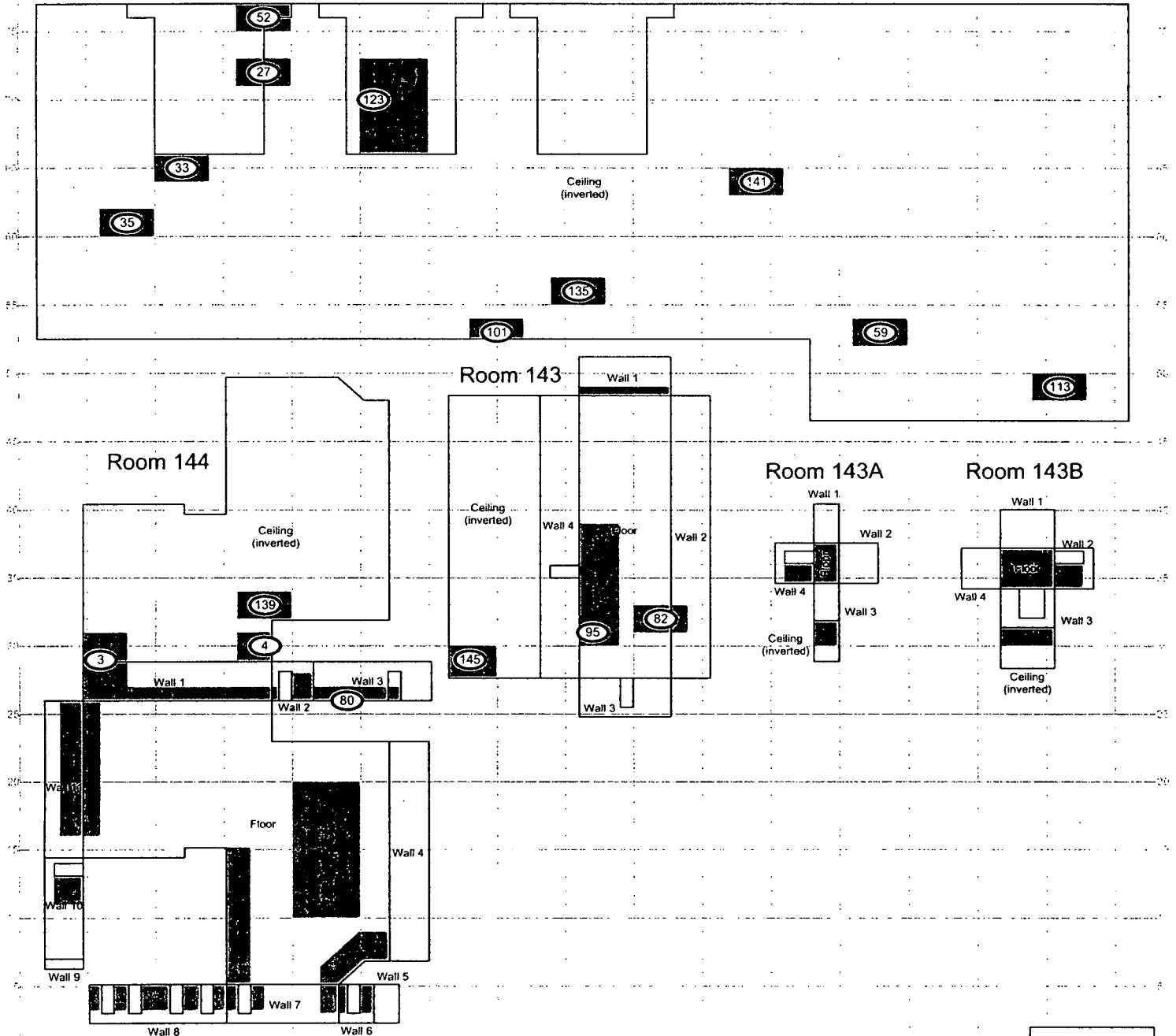
Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas

Total Area: 27,496 sq. m.

Total Floor Area: 10,041 sq. m.

PAGE 10 OF 17

Room Mezzanine



Scan Area

SURVEY MAP LEGEND

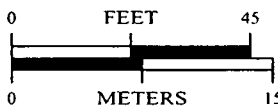
- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25



1 inch = 36 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138460_HB_10_SC

Apr. 4, 2005

RLC SURVEY FOR B460

Survey Area: 5

Survey Unit: 460002

Classification: 3

Building: 460

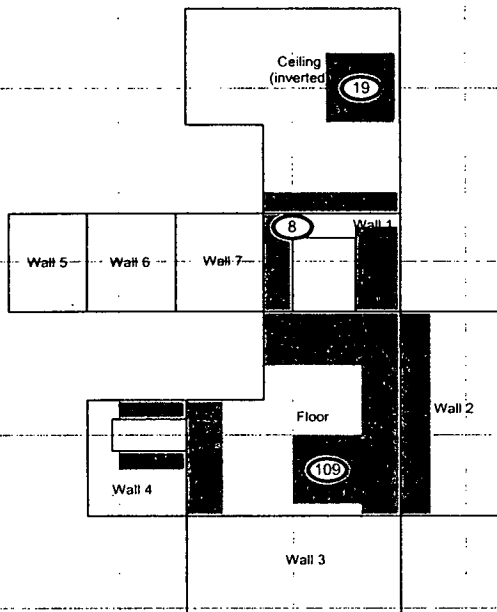
Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas

Total Area: 27,496 sq. m.

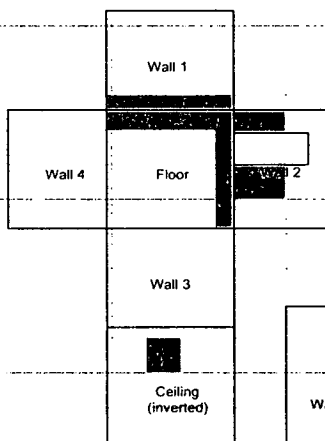
Total Floor Area: 10,041 sq. m.

PAGE 11 OF 17

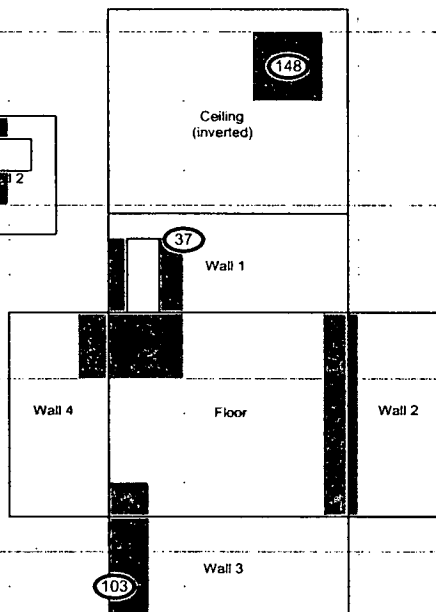
Room 148



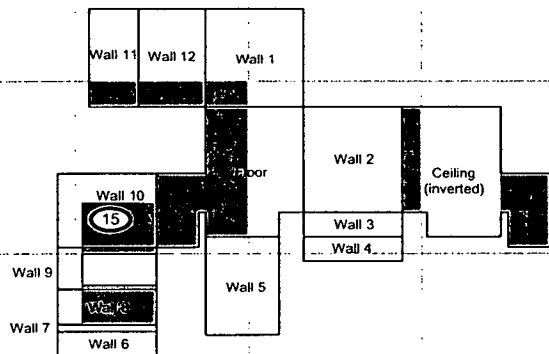
Room 145A



Room 149
Record Storage



Room 138

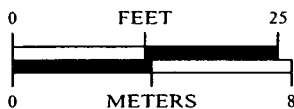


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138\460_HB_11_SC

Apr. 4, 2005

Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25

RLC SURVEY FOR B460

Survey Area: 5

Building: 460

Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas

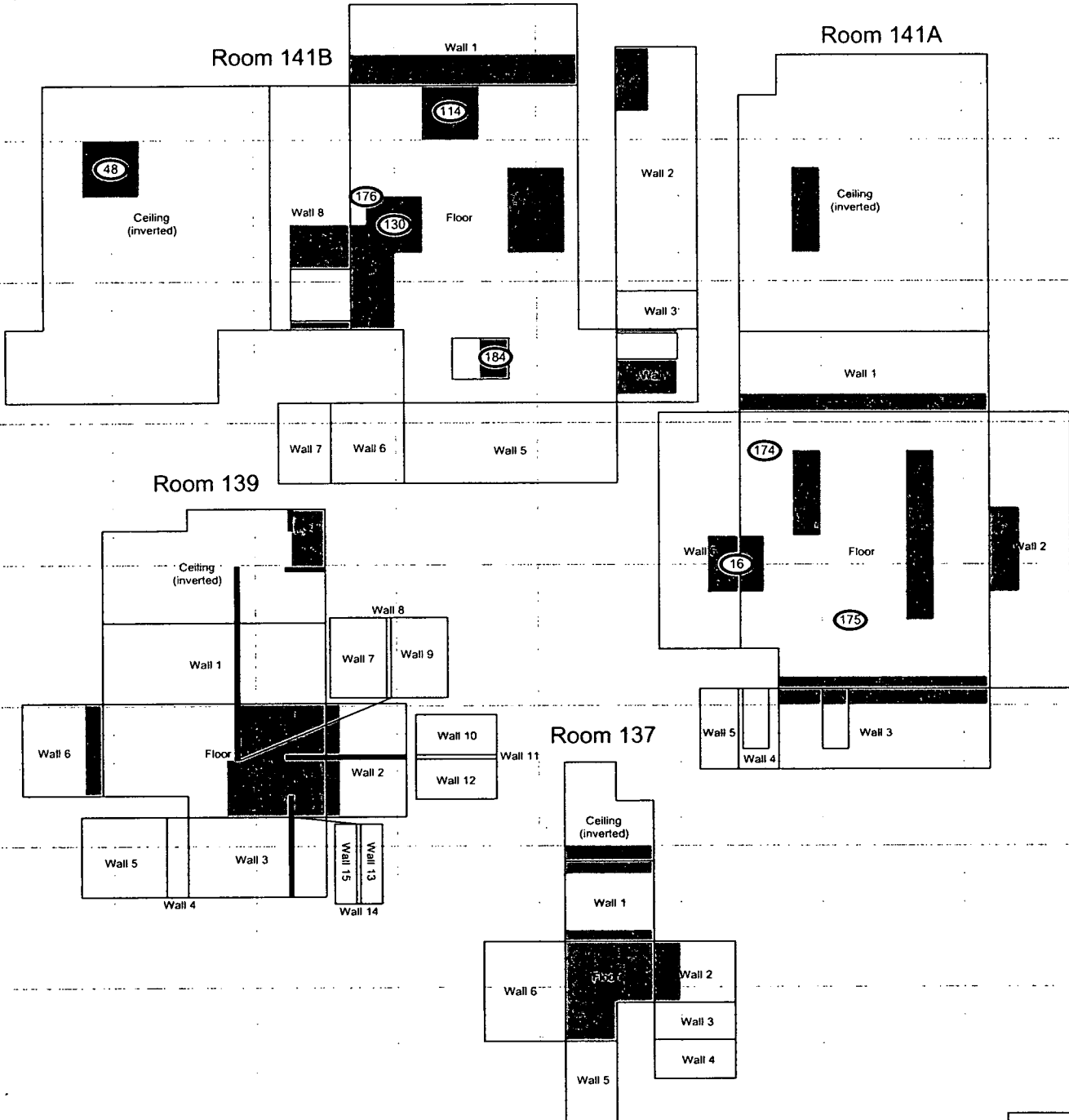
Total Area: 27,496 sq. m.

Survey Unit: 460002

Classification: 3

Total Floor Area: 10,041 sq. m.

PAGE 12 OF 17



Scan Area

SURVEY MAP LEGEND

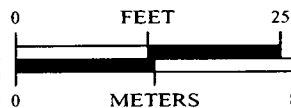
- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138\460_HB_12_SC

Apr. 4, 2005

RLC SURVEY FOR B460

Survey Area: 5

Survey Unit: 460002

Classification: 3

Building: 460

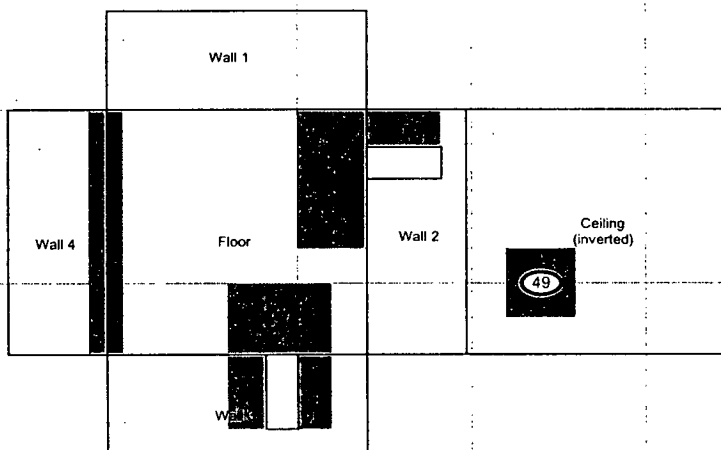
Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas

Total Area: 27,496 sq. m.

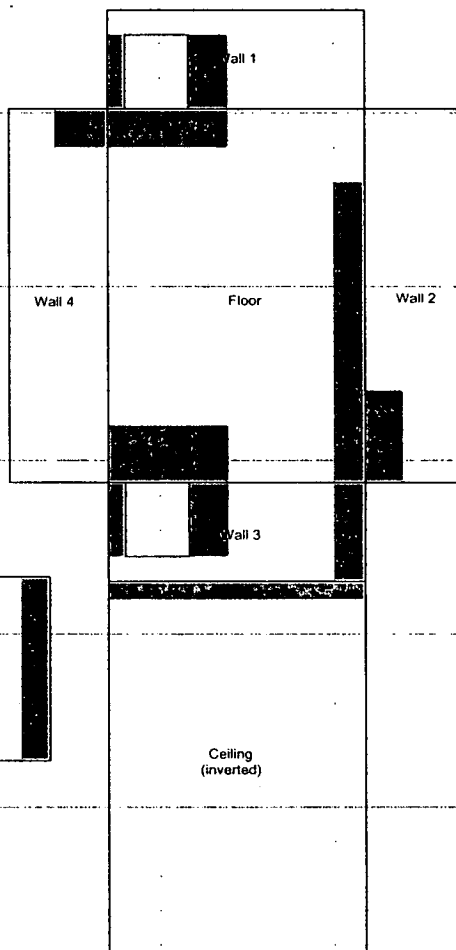
Total Floor Area: 10,041 sq. m.

PAGE 13 OF 17

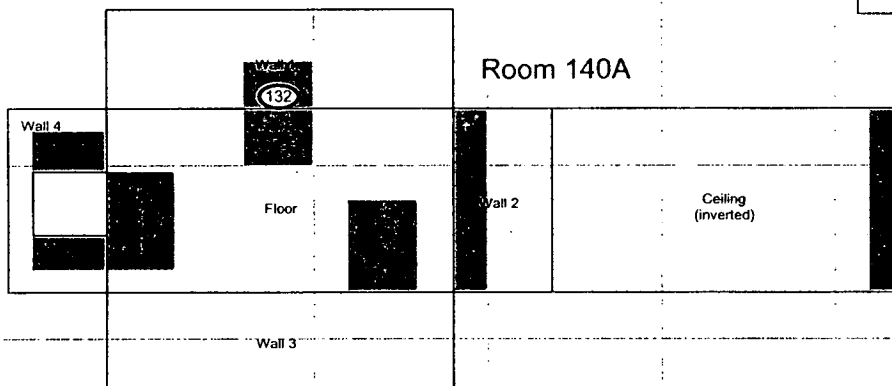
141C



Room 141



Room 140A

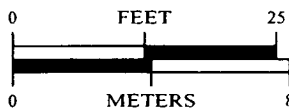


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138460_HB_13_SC

Apr. 4, 2005

RLC SURVEY FOR B460

Survey Area: 5

Survey Unit: 460002

Classification: 3

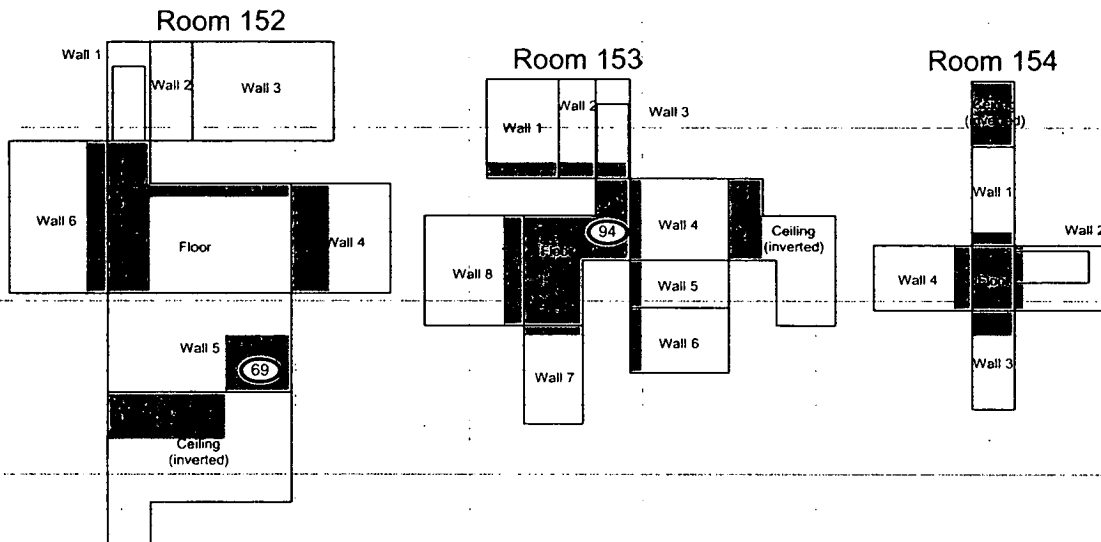
Building: 460

Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas

Total Area: 27,496 sq. m.

Total Floor Area: 10,041 sq. m.

PAGE 14 OF 17



Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



KAISER HILL
CONSULTANTS

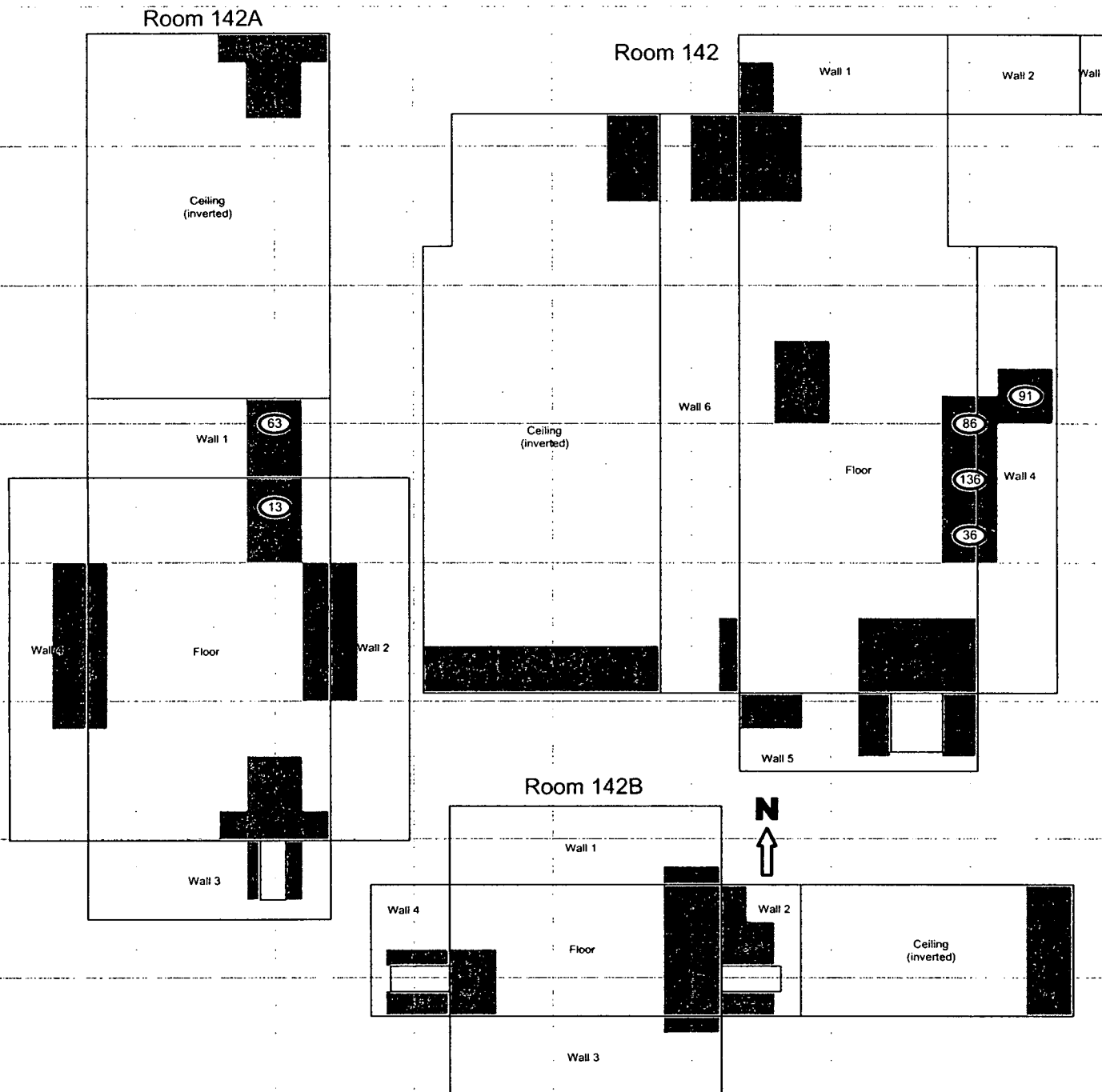
MAP ID: 03-0138V460_HB_14_SC

Apr. 4, 2005

RLC SURVEY FOR B460

Survey Area: 5 Survey Unit: 460002 Classification: 3
 Building: 460
 Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas
 Total Area: 27,496 sq. m. Total Floor Area: 10,041 sq. m.

PAGE 15 OF 17

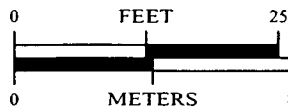


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
 1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group



MAP ID: 03-0138460_HB_15_SC

Apr. 4, 2005

RLC SURVEY FOR B460

Survey Area: 5

Survey Unit: 460002

Classification: 3

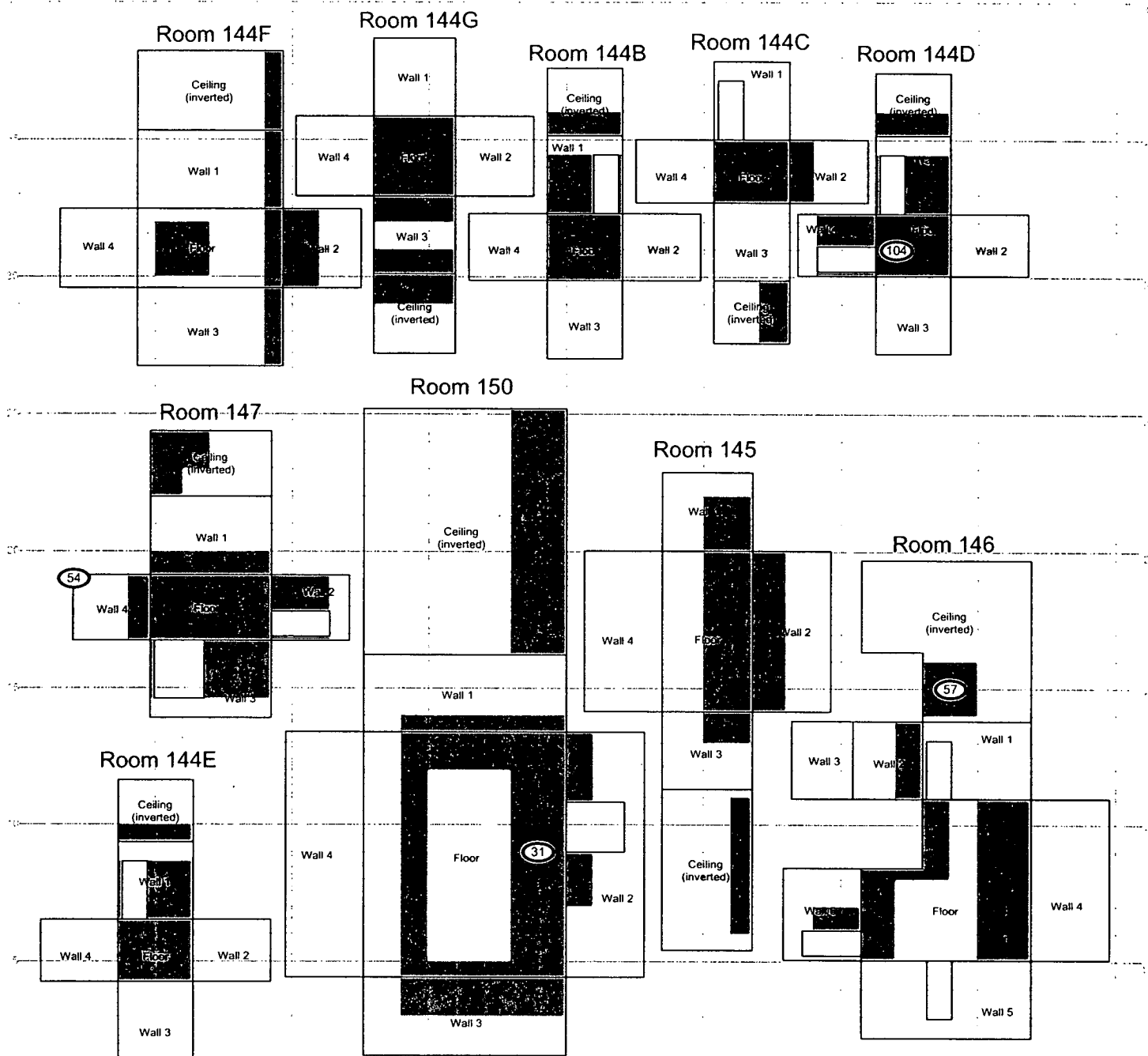
Building: 460

Survey Unit Description: 460 Interior - North Offices, High Bay & Loading Dock Areas

Total Area: 27,496 sq. m.

Total Floor Area: 10,041 sq. m.

PAGE 16 OF 17

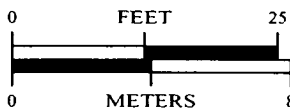


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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1 inch = 18 feet 1 grid sq. = 1 sq. m.

Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group




MAP ID: 03-0138\460_HB_16_SC

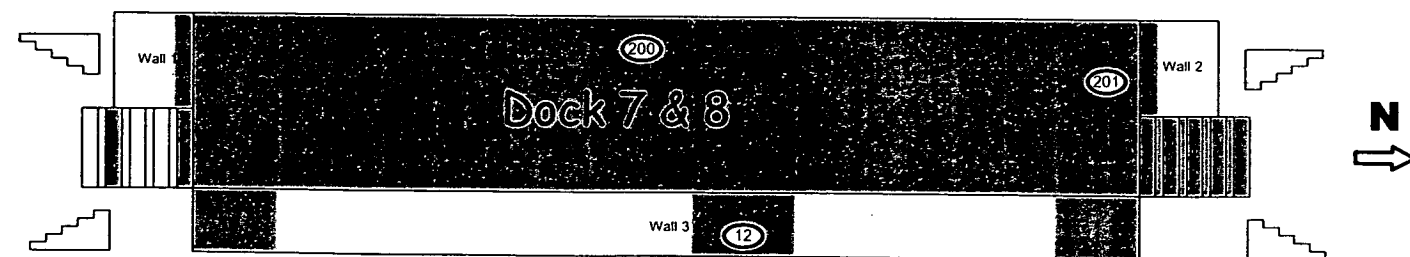
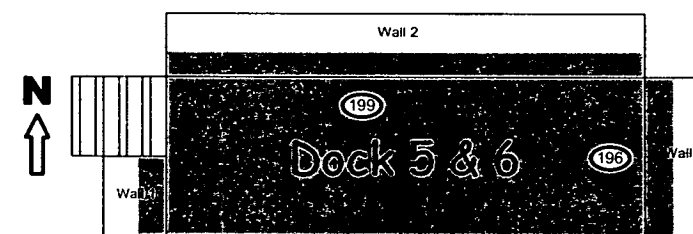
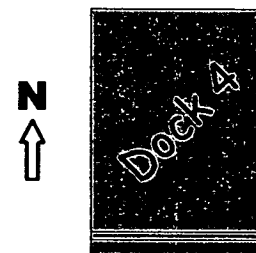
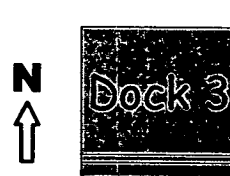
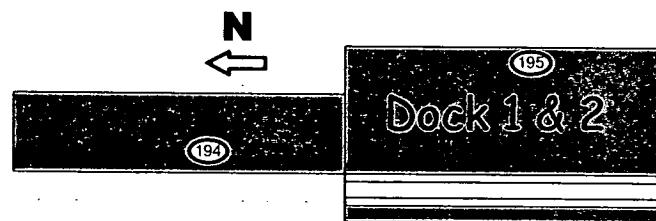
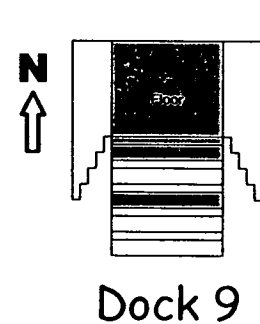
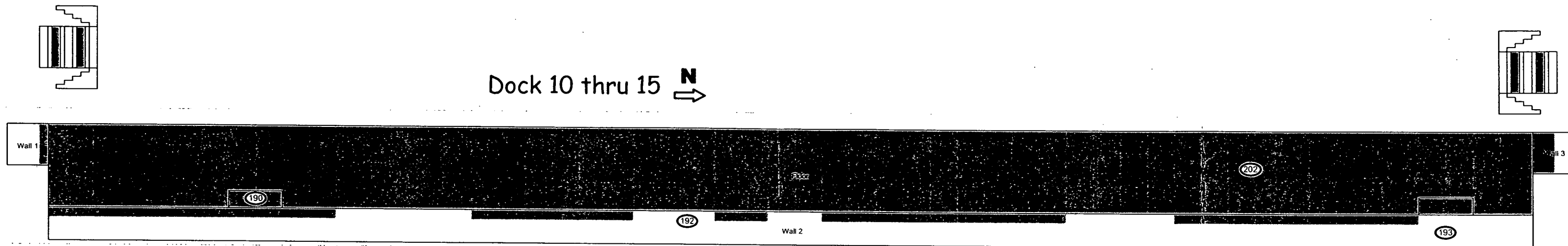
Apr. 4, 2005

PRE-DEMOLITION SURVEY FOR BUILDING 460





Survey Area: 5 Survey Unit: 460002 Classification: 3
Building: 460
Survey Unit Description: Interior - North Offices, High Bay & Loading Dock Areas
Total Area: 27,496 sq. m. Total Floor Area: 10,041 sq. m.

PAGE 17 OF 17

Dock 10 thru 15 

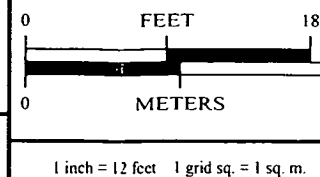


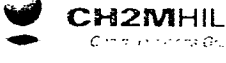

SURVEY MAP LEGEND

-  Smear & TSA Location
-  Smear, TSA & Sample Location
-  Open/Inaccessible Area
-  Area in Another Survey Unit

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Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1-3, 7, 8, 11-13, 16-18, 20, 21, 24, 25



U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: GIS Dept. 303-966-7707 Prepared for:
 
MAP ID: 03-01381460_PG_17_SC Apr. 4, 2003

Survey Area: 5**Survey Unit:** 460003**Building:** 460**Description:** Building 460 Interior - First Floor South Offices

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 70

Nbr Biased Measurements Required: 25

Nbr QC Required: 4

Nbr Random Measurements Performed: 70

Nbr Biased Measurements Performed: 25

Nbr QC Performed: 4

Alpha

Maximum: 75.0 dpm/100cm²Minimum: -13.3 dpm/100cm²Mean: 12.5 dpm/100cm²

Standard Deviation: 14.5

QC Maximum: 36.3 dpm/100cm²QC Minimum: 29.8 dpm/100cm²QC Mean: 32.2 dpm/100cm²Transuranic DCGL_w: 100.0 dpm/100cm²Transuranic DCGL_{EMC}: 300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 70

Nbr Biased Measurements Required: 25

Nbr Random Measurements Performed: 70

Nbr Biased Measurements Performed: 25

Alpha

Maximum: 6.1 dpm/100cm²Minimum: -1.5 dpm/100cm²Mean: 0.2 dpm/100cm²

Standard Deviation: 1.5

Transuranic DCGL_w: 20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 5

Survey Unit: 460003

Building: 460

Description: Building 460 Interior - First Floor South Offices

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	711447	02/08/05	Electra	1235	DP-6	03/16/05	0.222	NA	48.0	NA	T
2	712467	02/10/05	Electra	657	AP-6	06/13/05	0.184	NA	48.0	NA	S
3	711447	02/12/05	Electra	3370	DP-6	07/27/05	0.213	NA	48.0	NA	T
4	712467	02/12/05	Electra	673	AP-6	07/24/05	0.173	NA	48.0	NA	S
5	712467	02/12/05	Electra	1366	DP-6	04/05/05	0.212	NA	48.0	NA	S
6	711447	02/14/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
7	711447	02/14/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R
8	511390	02/28/05	Electra	3254	DP-6	07/04/05	0.225	NA	48.0	NA	T/S
9	711447	02/28/05	Electra	1366	DP-6	04/05/05	0.212	NA	48.0	NA	T/S
10	712467	02/28/05	Electra	673	AP-6	07/24/05	0.173	NA	48.0	NA	S
11	711447	03/07/05	Electra	1366	DP-6	04/05/05	0.212	NA	48.0	NA	T/S
12	712467	03/07/05	Electra	3370	DP-6	07/27/05	0.213	NA	48.0	NA	T/S
13	712467	03/07/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R
14	511390	03/17/05	Electra	1366	DP-6	04/05/05	0.212	NA	48.0	NA	T/S
15	515538	03/17/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
16	515538	03/17/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
17	511390	03/17/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	Q/S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5

Survey Unit: 460003

Building: 460

Description: Building 460 Interior - First Floor South Offices

Comments Sheet

General N/A

Comments:

TSA N/A

Comments:

RSA N/A

Comments:

Media N/A

Comments:

Survey Area: 5

Survey Unit: 460003

Building: 460

Description: Building 460 Interior - First Floor South Offices

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460003PRP-N001	7	0.3	N/A	N/A
460003PRP-N002	13	-1.5	N/A	N/A
460003PRP-N003	6	1.2	N/A	N/A
460003PRP-N004	7	1.8	N/A	N/A
460003PRP-N005	7	0.3	N/A	N/A
460003PRP-N006	7	0.3	N/A	N/A
460003PRP-N007	7	-1.2	N/A	N/A
460003PRP-N008	7	-1.2	N/A	N/A
460003PRP-N009	7	-1.2	N/A	N/A
460003PRP-N010	7	-1.2	N/A	N/A
460003PRP-N011	6	1.2	N/A	N/A
460003PRP-N012	6	2.7	N/A	N/A
460003PRP-N013	7	0.3	N/A	N/A
460003PRP-N014	6	-0.3	N/A	N/A
460003PRP-N015	7	0.3	N/A	N/A
460003PRP-N016	6	-0.3	N/A	N/A
460003PRP-N017	16	-1.5	N/A	N/A
460003PRP-N018	6	-0.3	N/A	N/A
460003PRP-N019	13	1.5	N/A	N/A
460003PRP-N020	6	4.2	N/A	N/A
460003PRP-N021	6	2.7	N/A	N/A
460003PRP-N022	7	0.3	N/A	N/A
460003PRP-N023	7	0.3	N/A	N/A
460003PRP-N024	6	-0.3	N/A	N/A
460003PRP-N025	7	-1.2	N/A	N/A
460003PRP-N026	6	1.2	N/A	N/A
460003PRP-N027	7	0.3	N/A	N/A
460003PRP-N028	6	1.2	N/A	N/A
460003PRP-N029	7	0.3	N/A	N/A

Survey Area: 5

Survey Unit: 460003

Building: 460

Description: Building 460 Interior - First Floor South Offices

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460003PRP-N030	6	-0.3	N/A	N/A
460003PRP-N031	13	-1.5	N/A	N/A
460003PRP-N032	6	1.2	N/A	N/A
460003PRP-N033	6	-0.3	N/A	N/A
460003PRP-N034	6	-0.3	N/A	N/A
460003PRP-N035	7	-1.2	N/A	N/A
460003PRP-N036	7	3.3	N/A	N/A
460003PRP-N037	7	-1.2	N/A	N/A
460003PRP-N038	7	4.9	N/A	N/A
460003PRP-N039	6	-0.3	N/A	N/A
460003PRP-N040	6	-0.3	N/A	N/A
460003PRP-N041	7	0.3	N/A	N/A
460003PRP-N042	7	-1.2	N/A	N/A
460003PRP-N043	7	0.3	N/A	N/A
460003PRP-N044	7	1.8	N/A	N/A
460003PRP-N045	7	0.3	N/A	N/A
460003PRP-N046	7	0.3	N/A	N/A
460003PRP-N047	7	-1.2	N/A	N/A
460003PRP-N048	7	-1.2	N/A	N/A
460003PRP-N049	6	-0.3	N/A	N/A
460003PRP-N050	13	0.0	N/A	N/A
460003PRP-N051	6	-0.3	N/A	N/A
460003PRP-N052	6	-0.3	N/A	N/A
460003PRP-N053	13	0.0	N/A	N/A
460003PRP-N054	6	1.2	N/A	N/A
460003PRP-N055	6	-0.3	N/A	N/A
460003PRP-N056	6	1.2	N/A	N/A
460003PRP-N057	6	2.7	N/A	N/A
460003PRP-N058	13	-1.5	N/A	N/A

Survey Area: 5**Survey Unit:** 460003**Building:** 460**Description:** Building 460 Interior - First Floor South Offices

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460003PRP-N059	13	0.0	N/A	N/A
460003PRP-N060	6	-0.3	N/A	N/A
460003PRP-N061	7	0.3	N/A	N/A
460003PRP-N062	6	1.2	N/A	N/A
460003PRP-N063	16	-1.5	N/A	N/A
460003PRP-N064	6	-0.3	N/A	N/A
460003PRP-N065	7	1.8	N/A	N/A
460003PRP-N066	13	0.0	N/A	N/A
460003PRP-N067	6	-0.3	N/A	N/A
460003PRP-N068	13	3.0	N/A	N/A
460003PRP-N069	7	1.8	N/A	N/A
460003PRP-N070	13	-1.5	N/A	N/A

Survey Area: 5

Survey Unit: 460003

Building: 460

Description: Building 460 Interior - First Floor South Offices

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460003PBP-N071	6	-0.3	N/A	N/A
460003PBP-N072	7	0.3	N/A	N/A
460003PBP-N073	13	1.5	N/A	N/A
460003PBP-N074	13	-1.5	N/A	N/A
460003PBP-N075	16	-1.5	N/A	N/A
460003PBP-N076	16	-1.5	N/A	N/A
460003PBP-N077	16	-1.5	N/A	N/A
460003PBP-N078	16	0.0	N/A	N/A
460003PBP-N079	16	-1.5	N/A	N/A
460003PBP-N080	16	0.0	N/A	N/A
460003PBP-N081	16	0.0	N/A	N/A
460003PBP-N082	16	1.5	N/A	N/A
460003PBP-N083	16	-1.5	N/A	N/A
460003PBP-N084	16	0.0	N/A	N/A
460003PBP-N085	16	-1.5	N/A	N/A
460003PBP-N086	16	0.0	N/A	N/A
460003PBP-N087	16	-1.5	N/A	N/A
460003PBP-N088	13	-1.5	N/A	N/A
460003PBP-N089	13	-1.5	N/A	N/A
460003PBP-N090	13	0.0	N/A	N/A
460003PBP-N091	13	0.0	N/A	N/A
460003PBP-N092	13	0.0	N/A	N/A
460003PBP-N093	13	1.5	N/A	N/A
460003PBP-N094	13	6.1	N/A	N/A
460003PBP-N095	13	1.5	N/A	N/A

Survey Area: 5

Survey Unit: 460003

Building: 460

Description: Building 460 Interior - First Floor South Offices

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460003PRP-N001	3	15.9	N/A	N/A
460003PRP-N002	11	22.1	N/A	N/A
460003PRP-N003	9	18.8	N/A	N/A
460003PRP-N004	8	25.7	N/A	N/A
460003PRP-N005	3	15.9	N/A	N/A
460003PRP-N006	3	40.7	N/A	N/A
460003PRP-N007	9	16.0	N/A	N/A
460003PRP-N008	3	3.2	N/A	N/A
460003PRP-N009	3	-0.1	N/A	N/A
460003PRP-N010	3	6.5	N/A	N/A
460003PRP-N011	9	28.3	N/A	N/A
460003PRP-N012	9	16.0	N/A	N/A
460003PRP-N013	1	15.9	N/A	N/A
460003PRP-N014	3	25.2	N/A	N/A
460003PRP-N015	3	18.7	N/A	N/A
460003PRP-N016	9	3.3	N/A	N/A
460003PRP-N017	9	12.7	N/A	N/A
460003PRP-N018	8	23.1	N/A	N/A
460003PRP-N019	11	16.0	N/A	N/A
460003PRP-N020	9	-2.9	N/A	N/A
460003PRP-N021	9	18.8	N/A	N/A
460003PRP-N022	3	28.1	N/A	N/A
460003PRP-N023	3	15.9	N/A	N/A
460003PRP-N024	3	40.7	N/A	N/A
460003QRP-N024	17	29.8	N/A	N/A
460003PRP-N025	3	6.5	N/A	N/A
460003PRP-N026	1	8.3	N/A	N/A

Survey Area: 5

Survey Unit: 460003

Building: 460

Description: Building 460 Interior - First Floor South Offices

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460003PRP-N027	11	9.4	N/A	N/A
460003PRP-N028	8	14.2	N/A	N/A
460003PRP-N029	1	-3.4	N/A	N/A
460003PRP-N030	3	17.3	N/A	N/A
460003PRP-N031	11	-6.2	N/A	N/A
460003PRP-N032	8	14.2	N/A	N/A
460003PRP-N033	8	-9.8	N/A	N/A
460003PRP-N034	3	15.9	N/A	N/A
460003PRP-N035	1	8.3	N/A	N/A
460003PRP-N036	9	12.7	N/A	N/A
460003PRP-N037	9	37.7	N/A	N/A
460003QRP-N037	17	33.1	N/A	N/A
460003PRP-N038	9	44.3	N/A	N/A
460003QRP-N038	17	36.3	N/A	N/A
460003PRP-N039	14	16.0	N/A	N/A
460003PRP-N040	1	11.4	N/A	N/A
460003PRP-N041	9	9.4	N/A	N/A
460003PRP-N042	3	18.7	N/A	N/A
460003PRP-N043	9	-2.9	N/A	N/A
460003PRP-N044	9	-6.2	N/A	N/A
460003PRP-N045	1	17.3	N/A	N/A
460003PRP-N046	8	-3.6	N/A	N/A
460003PRP-N047	9	9.4	N/A	N/A
460003PRP-N048	3	46.8	N/A	N/A
460003QRP-N048	17	29.8	N/A	N/A
460003PRP-N049	9	12.7	N/A	N/A
460003PRP-N050	11	-0.0	N/A	N/A

Survey Area: 5**Survey Unit:** 460003**Building:** 460**Description:** Building 460 Interior - First Floor South Offices

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460003PRP-N051	8	16.8	N/A	N/A
460003PRP-N052	8	11.1	N/A	N/A
460003PRP-N053	11	3.3	N/A	N/A
460003PRP-N054	1	-6.6	N/A	N/A
460003PRP-N055	3	11.2	N/A	N/A
460003PRP-N056	3	18.7	N/A	N/A
460003PRP-N057	9	18.8	N/A	N/A
460003PRP-N058	11	-9.5	N/A	N/A
460003PRP-N059	11	-6.2	N/A	N/A
460003PRP-N060	3	-0.1	N/A	N/A
460003PRP-N061	3	-2.9	N/A	N/A
460003PRP-N062	3	-0.1	N/A	N/A
460003PRP-N063	14	22.1	N/A	N/A
460003PRP-N064	3	9.3	N/A	N/A
460003PRP-N065	9	9.4	N/A	N/A
460003PRP-N066	11	18.8	N/A	N/A
460003PRP-N067	3	3.2	N/A	N/A
460003PRP-N068	11	-0.0	N/A	N/A
460003PRP-N069	9	14.1	N/A	N/A
460003PRP-N070	11	9.4	N/A	N/A

Survey Area: 5

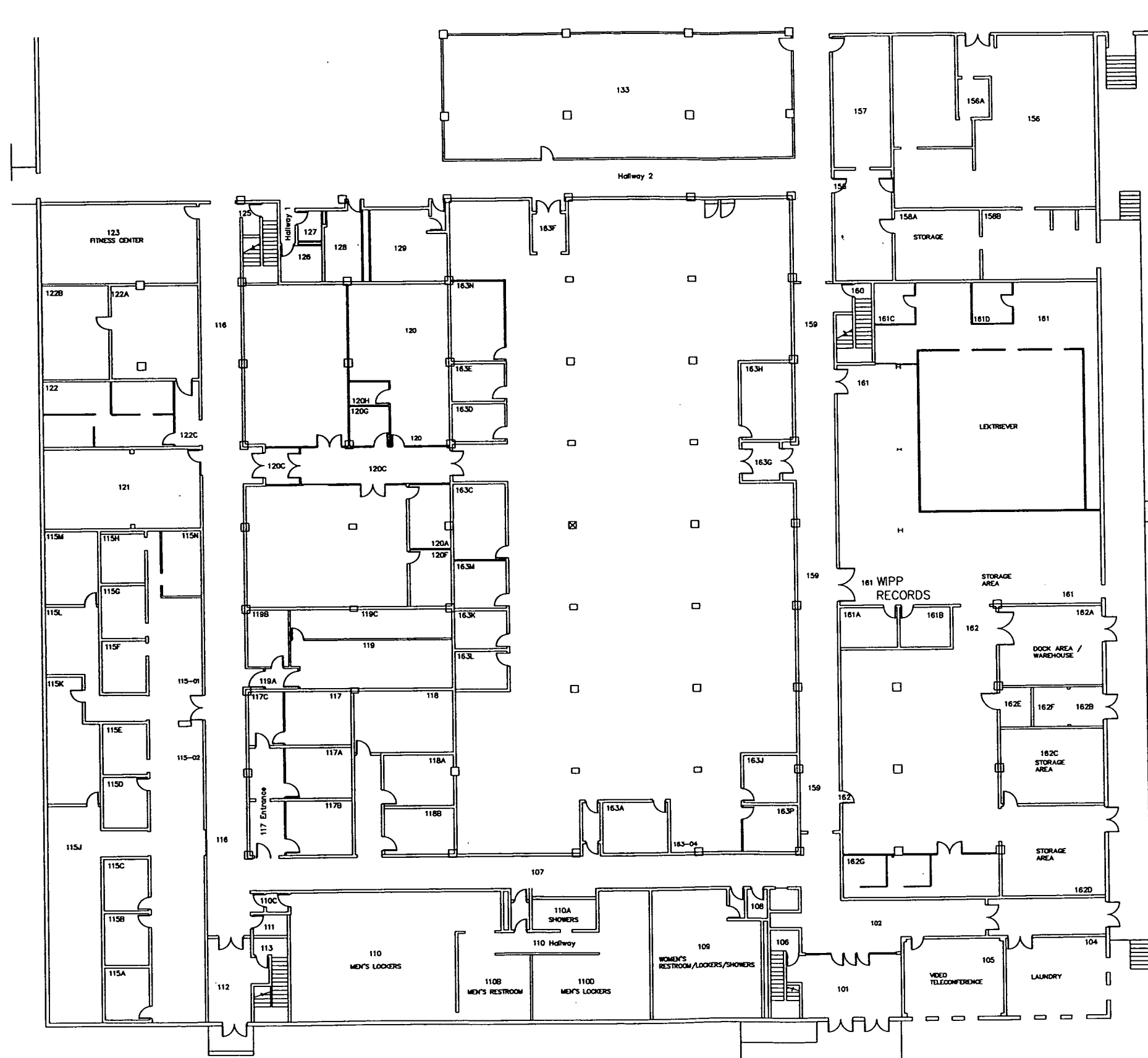
Survey Unit: 460003

Building: 460

Description: Building 460 Interior - First Floor South Offices

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460003PBP-N071	8	7.3	N/A	N/A
460003PBP-N072	8	21.9	N/A	N/A
460003PBP-N073	11	-0.5	N/A	N/A
460003PBP-N074	11	5.6	N/A	N/A
460003PBP-N075	15	30.1	N/A	N/A
460003PBP-N076	14	2.8	N/A	N/A
460003PBP-N077	15	17.6	N/A	N/A
460003PBP-N078	14	15.0	N/A	N/A
460003PBP-N079	15	30.1	N/A	N/A
460003PBP-N080	14	33.9	N/A	N/A
460003PBP-N081	15	32.9	N/A	N/A
460003PBP-N082	14	29.2	N/A	N/A
460003PBP-N083	15	-0.9	N/A	N/A
460003PBP-N084	14	-0.5	N/A	N/A
460003PBP-N085	15	2.4	N/A	N/A
460003PBP-N086	14	15.0	N/A	N/A
460003PBP-N087	15	8.4	N/A	N/A
460003PBP-N088	12	-3.9	N/A	N/A
460003PBP-N089	12	21.4	N/A	N/A
460003PBP-N090	12	-10.0	N/A	N/A
460003PBP-N091	12	75.0	N/A	N/A
460003PBP-N092	12	-3.9	N/A	N/A
460003PBP-N093	12	-13.3	N/A	N/A
460003PBP-N094	12	-6.7	N/A	N/A
460003PBP-N095	12	16.8	N/A	N/A



N

KEY MAP

Building 460 1st Floor Offices

(not intended for showing survey/sample locations)

PAGE 1 OF 3

0

FEET

45

0

METERS

15

1 inch = 36 feet

1 grid sq. = 1 sq. m.

U.S. Department of Energy

Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:

CH2MHILL

Communications Group

KAISER HILL

COMPANY

MAP ID: 03-0138/1stFlr_Off_Key

July 4, 2003

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

Building: 460

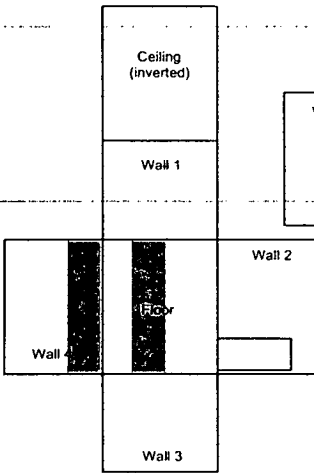
Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

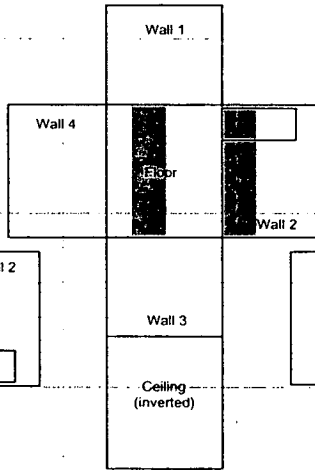
Total Floor Area: 4,655 sq. m.

PAGE 1 OF 22

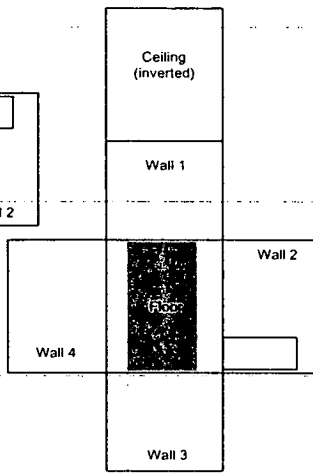
Room 115A



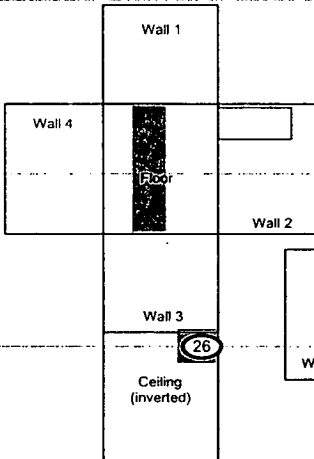
Room 115B



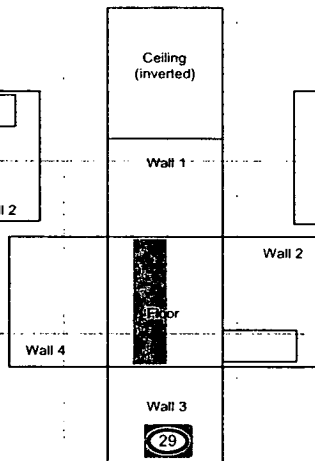
Room 115C



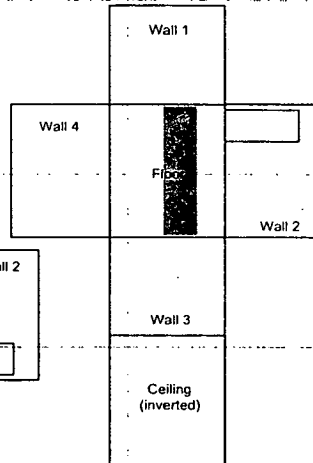
Room 115D



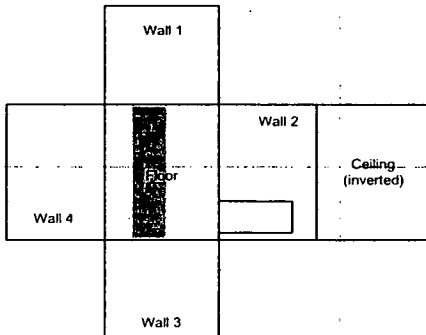
Room 115E



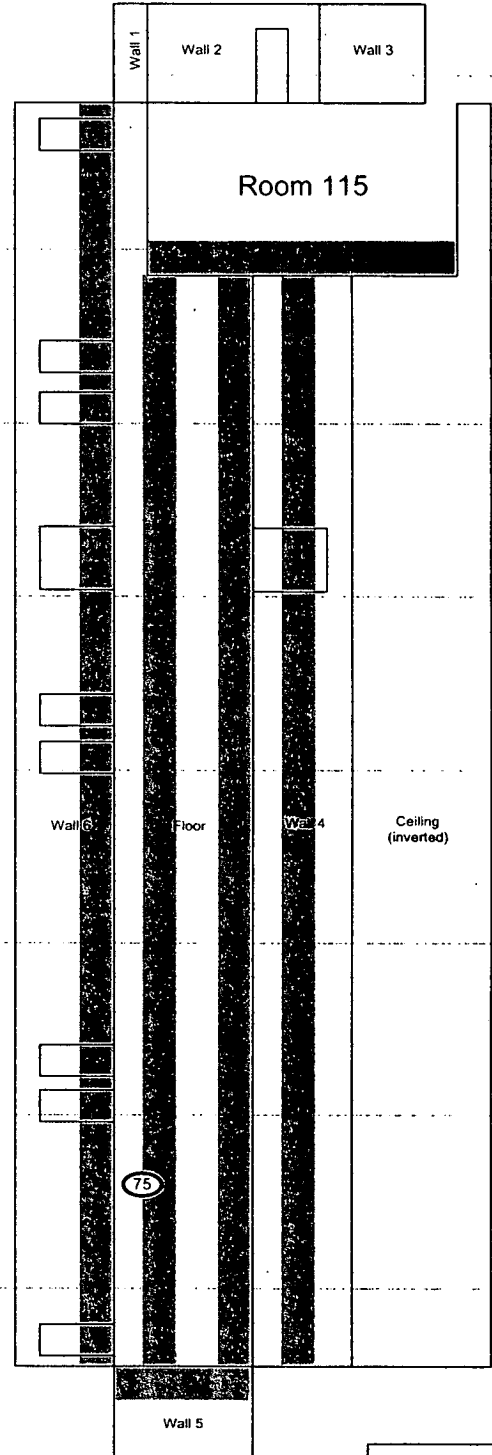
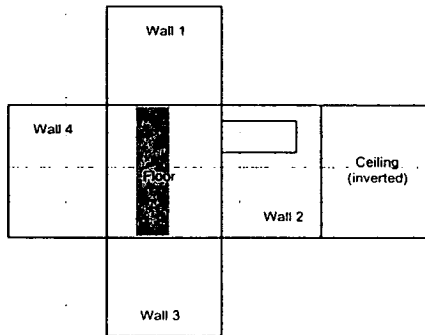
Room 115F



Room 115G



Room 115H

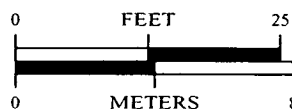


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138/460_p1_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

Building: 460

Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

Total Floor Area: 4,655 sq. m.

PAGE 2 OF 22

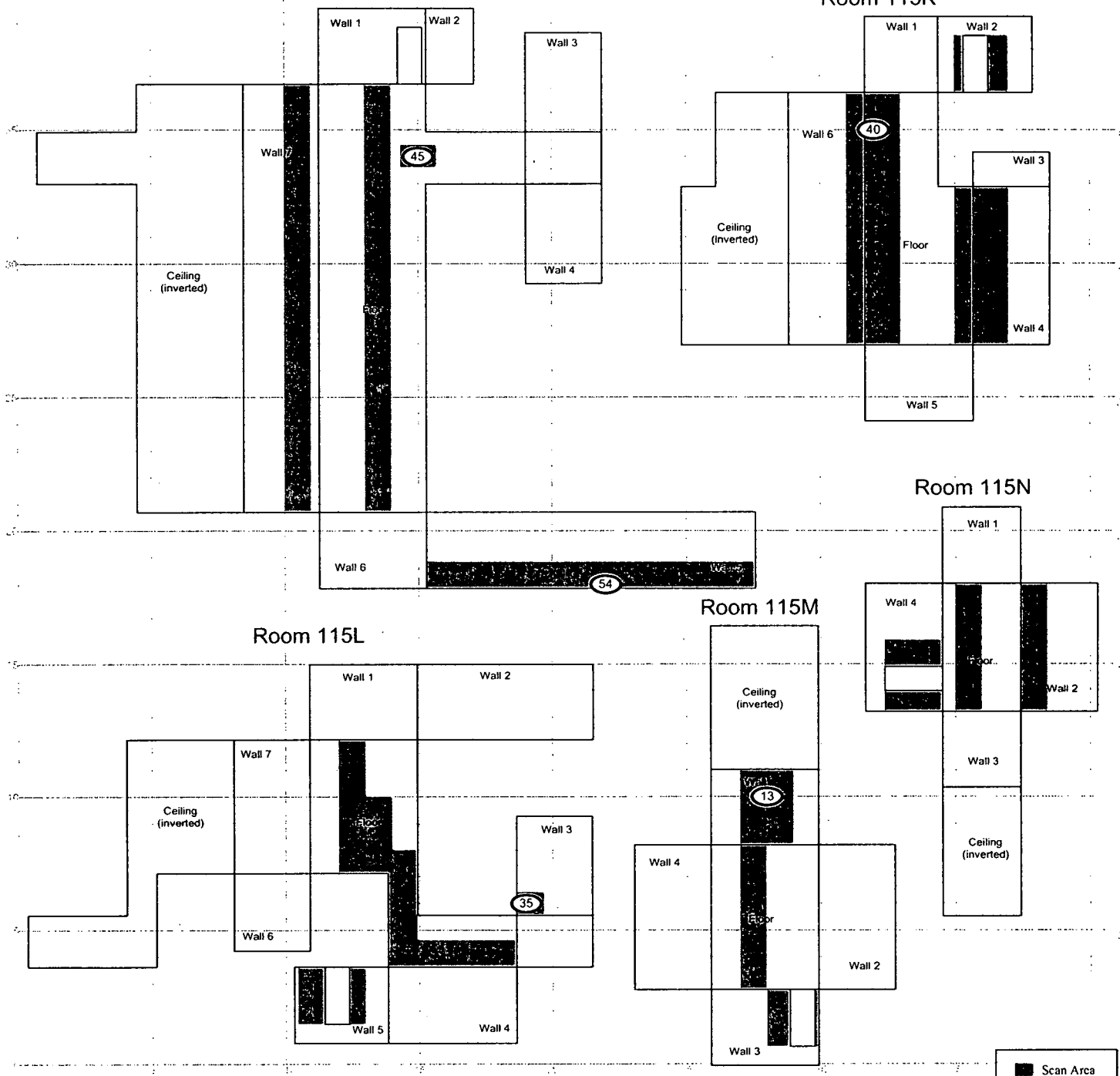
Room 115J

Room 115K

Room 115N

Room 115M

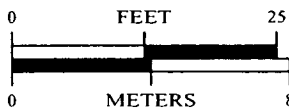
Room 115L



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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1 inch = 18 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138/460_p2_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

Building: 460

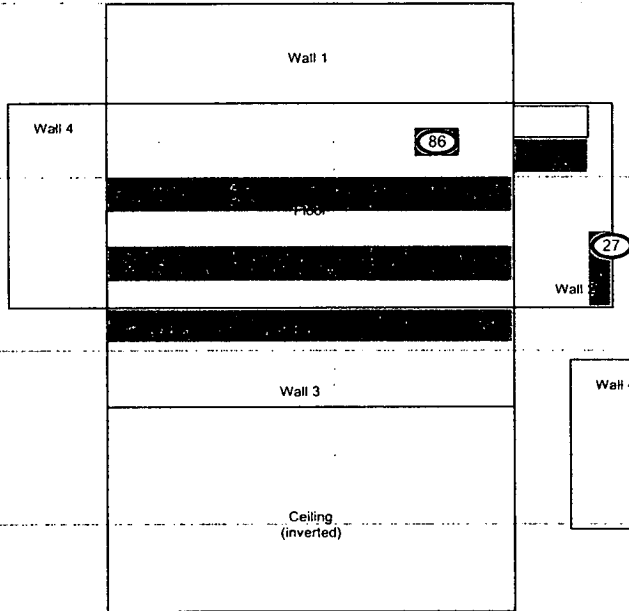
Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

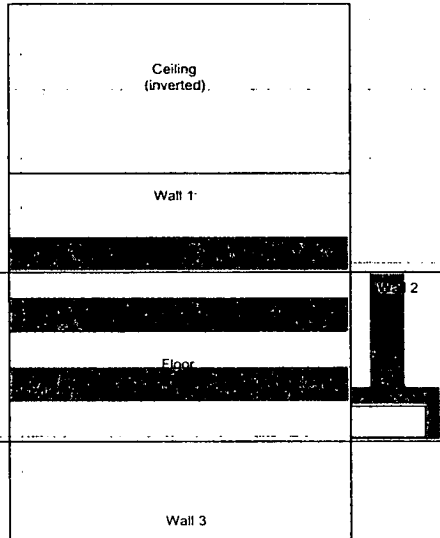
Total Floor Area: 4,655 sq. m.

PAGE 3 OF 22

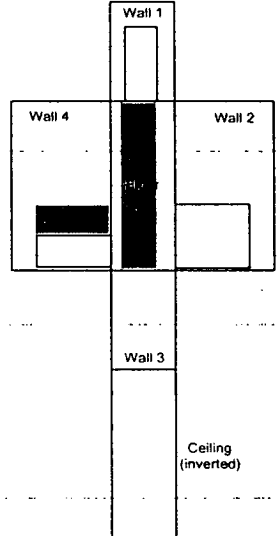
Room 121



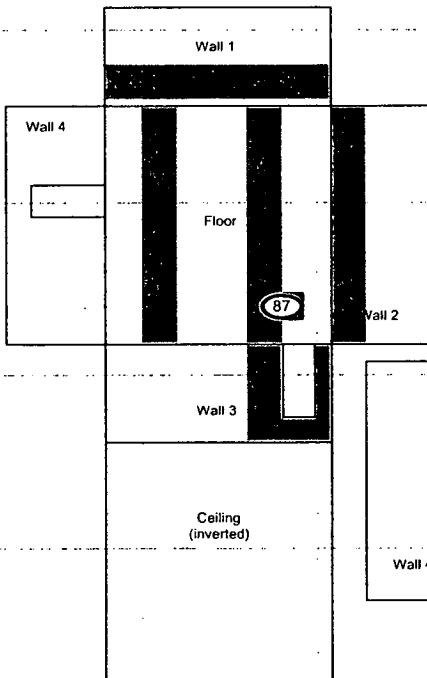
Room 122



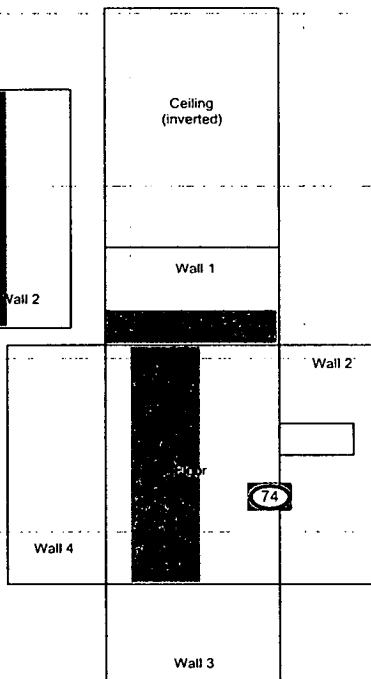
Room 122C



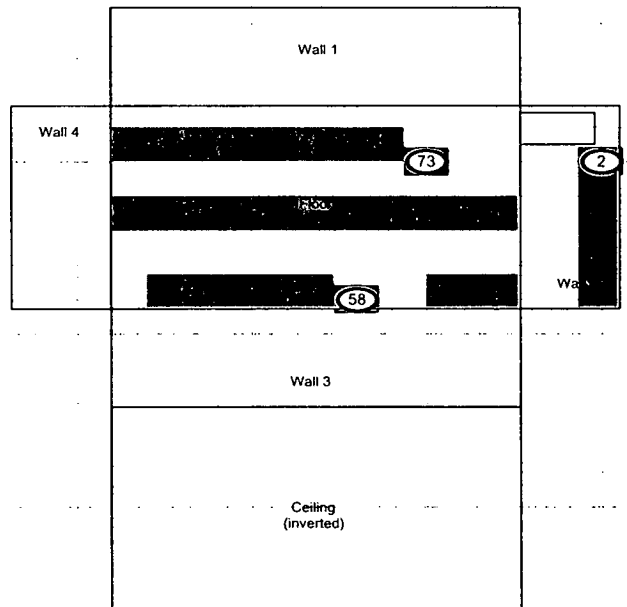
Room 122A



Room 122B



Room 123

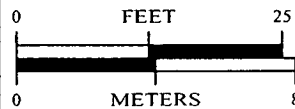


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Construction Group



MAP ID: 03-0138/460_p3_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

Building: 460

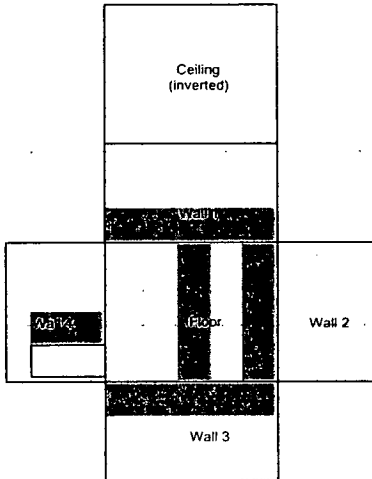
Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

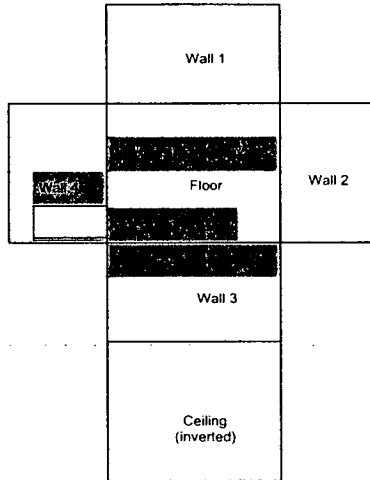
Total Floor Area: 4,655 sq. m.

PAGE 4 OF 22

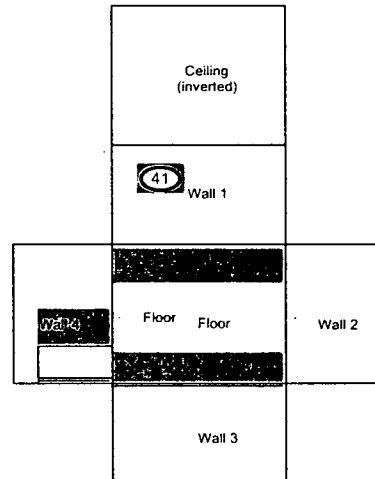
Room 117



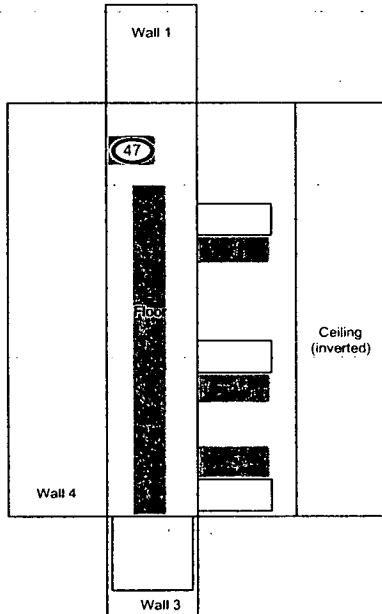
Room 117A



Room 117B



Room 117
Hallway



Scan Area

SURVEY MAP LEGEND

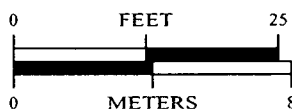
- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138/460_p4_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

Building: 460

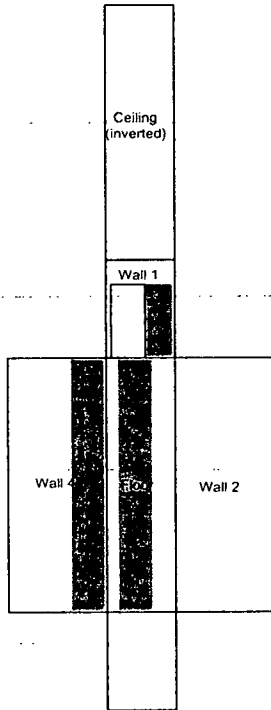
Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

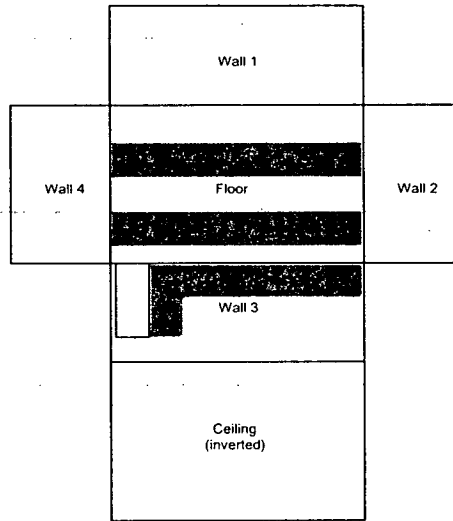
Total Floor Area: 4,655 sq. m.

PAGE 5 OF 22

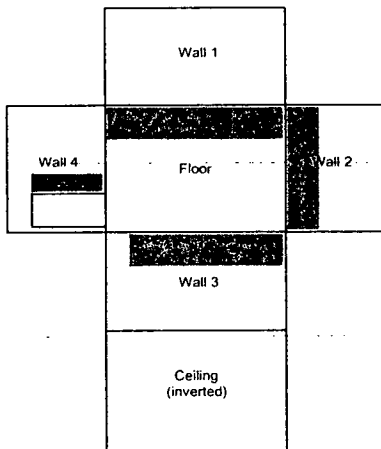
118 Entrance



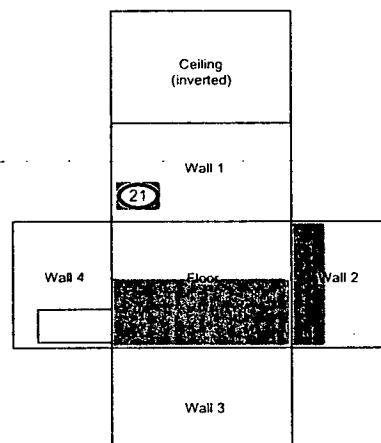
Room 118



Room 118A



Room 118B



Scan Area

SURVEY MAP LEGEND

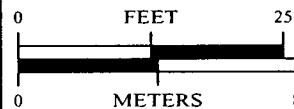
- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138/460_p5_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

Building: 460

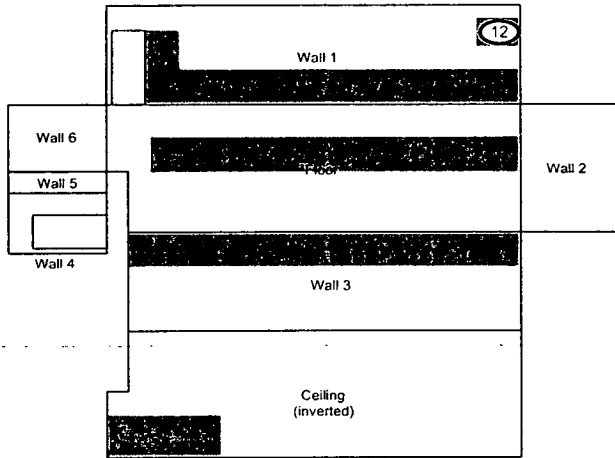
Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

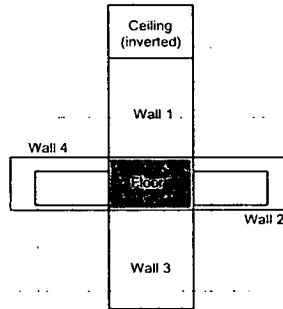
Total Floor Area: 4,655 sq. m.

PAGE 6 OF 22

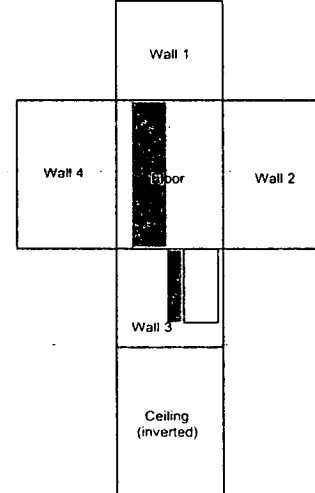
Room 119



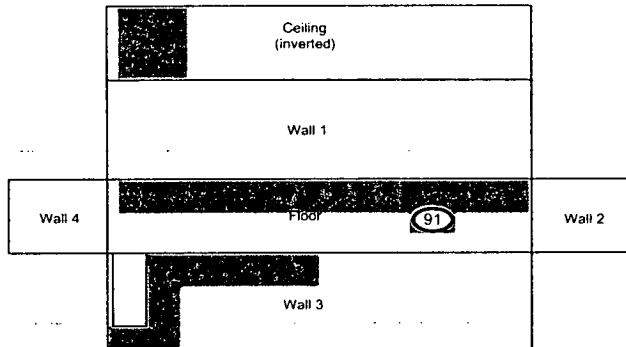
Room 119 A



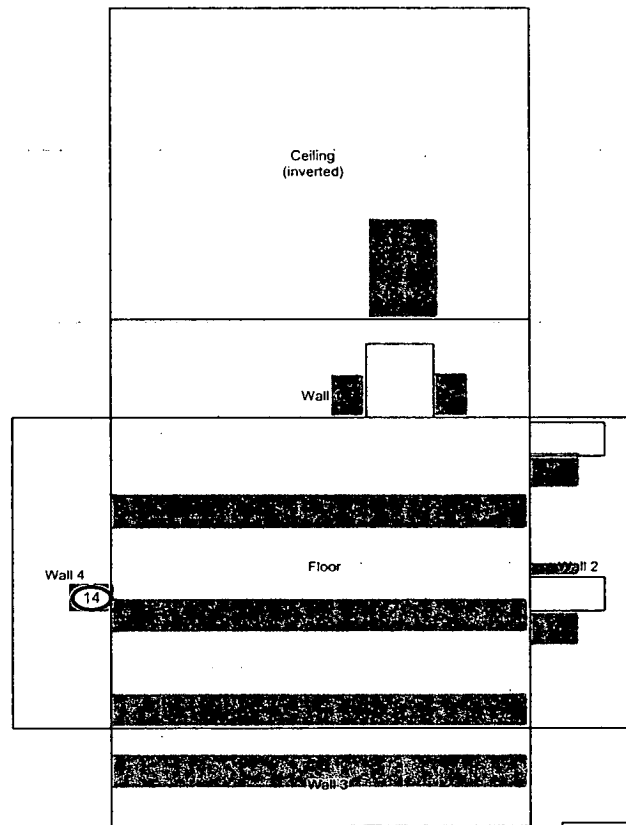
Room 119B



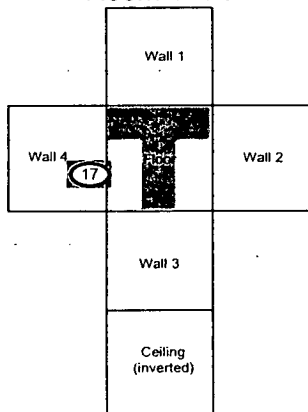
Room 119C



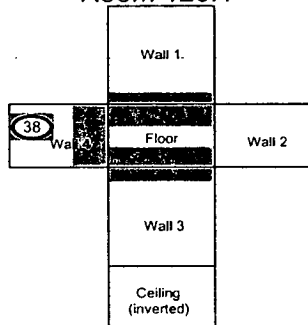
Room 120E



Room 120G



Room 120H

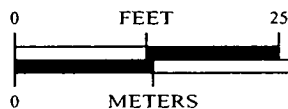


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Construction Group



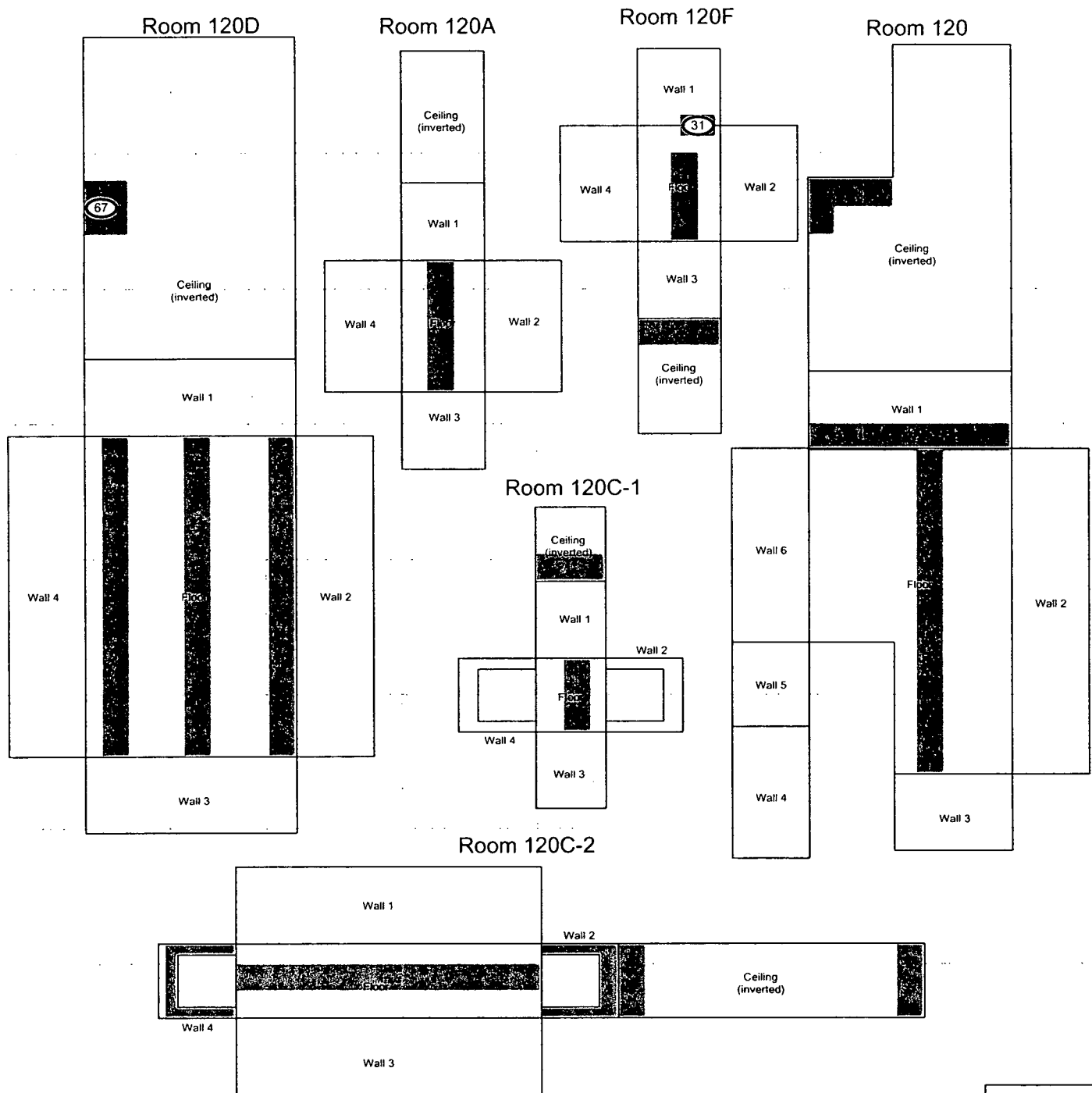
MAP ID: 03-0138/460_p6_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5 Survey Unit: 460003 Classification: 3
 Building: 460
 Survey Unit Description: 460 Interior 1st Floor South Offices
 Total Area: 18,117 sq. m. Total Floor Area: 4,655 sq. m.

PAGE 7 OF 22

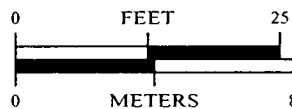


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 2, 4, 5, 8-12, 14, 15, 17

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group



MAP ID: 03-0138/460_p7_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

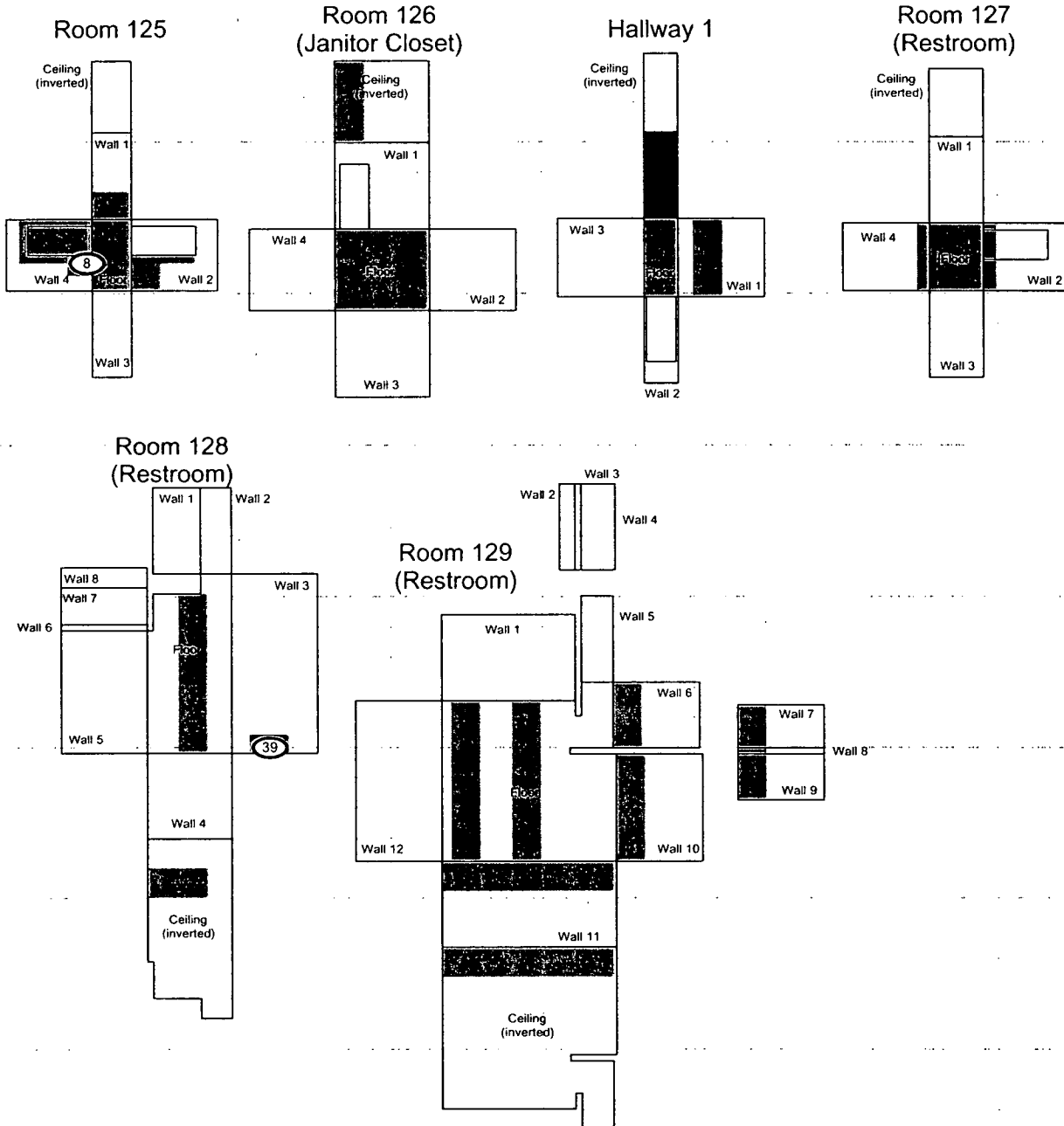
Building: 460

Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

Total Floor Area: 4,655 sq. m.

PAGE 8 OF 22



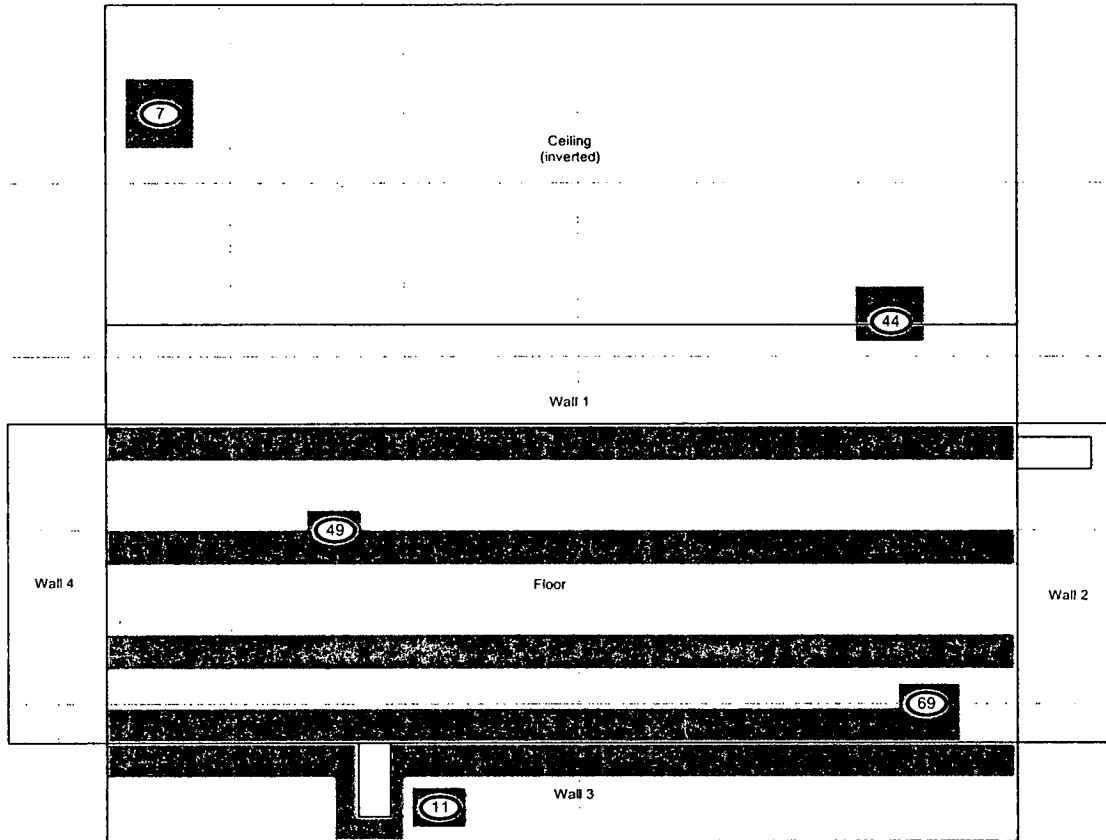
<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Smear & TSA Location Smear, TSA & Sample Location Open/Inaccessible Area Area in Another Survey Unit 	<p>Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p>	<p>N</p> <p>↑</p>	<p>FEET</p> <p>0 25</p> <p>METERS</p> <p>0 8</p> <p>1 inch = 18 feet 1 grid sq. = 1 sq. m.</p>	<p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIS Dept. 303-966-7707</p> <p>Prepared for:</p> <p>CH2MHILL Communications Group</p> <p>KAISER HILL CONSULTANTS</p> <p>MAP ID: 03-0138/460_p8_SC</p> <p>Mar. 23, 2005</p>
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RLC FOR B460


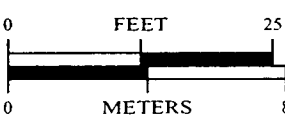


Survey Area: 5 Survey Unit: 460003 Classification: 3
 Building: 460
 Survey Unit Description: 460 Interior 1st Floor South Offices
 Total Area: 18,117 sq. m. Total Floor Area: 4,655 sq. m.

PAGE 9 OF 22

Room 133



Scan Area

SURVEY MAP LEGEND (7) Smear & TSA Location (49) Smear, TSA & Sample Location ■ Open/Inaccessible Area □ Area in Another Survey Unit	Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Scan Survey Information Survey Instrument ID #(s) & RCT ID #(s): 2, 4, 5, 8-12, 14, 15, 17	<div style="text-align: center;">  N </div> <div style="text-align: center;">  0 FEET 25 0 METERS 8 1 inch = 18 feet 1 grid sq. = 1 sq. m. </div>	<div style="text-align: center;"> U.S. Department of Energy Rocky Flats Environmental Technology Site </div> <div style="display: flex; justify-content: space-between;"> <div> Prepared by: GIS Dept. 303-966-7707  CH2MHILL Communications Group </div> <div> Prepared for:  KAISER HILL CONSULTANTS </div> </div> <div style="display: flex; justify-content: space-between;"> <div>MAP ID: 03-0138/460_p9_SC</div> <div>Mar. 23, 2005</div> </div>
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RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

Building: 460

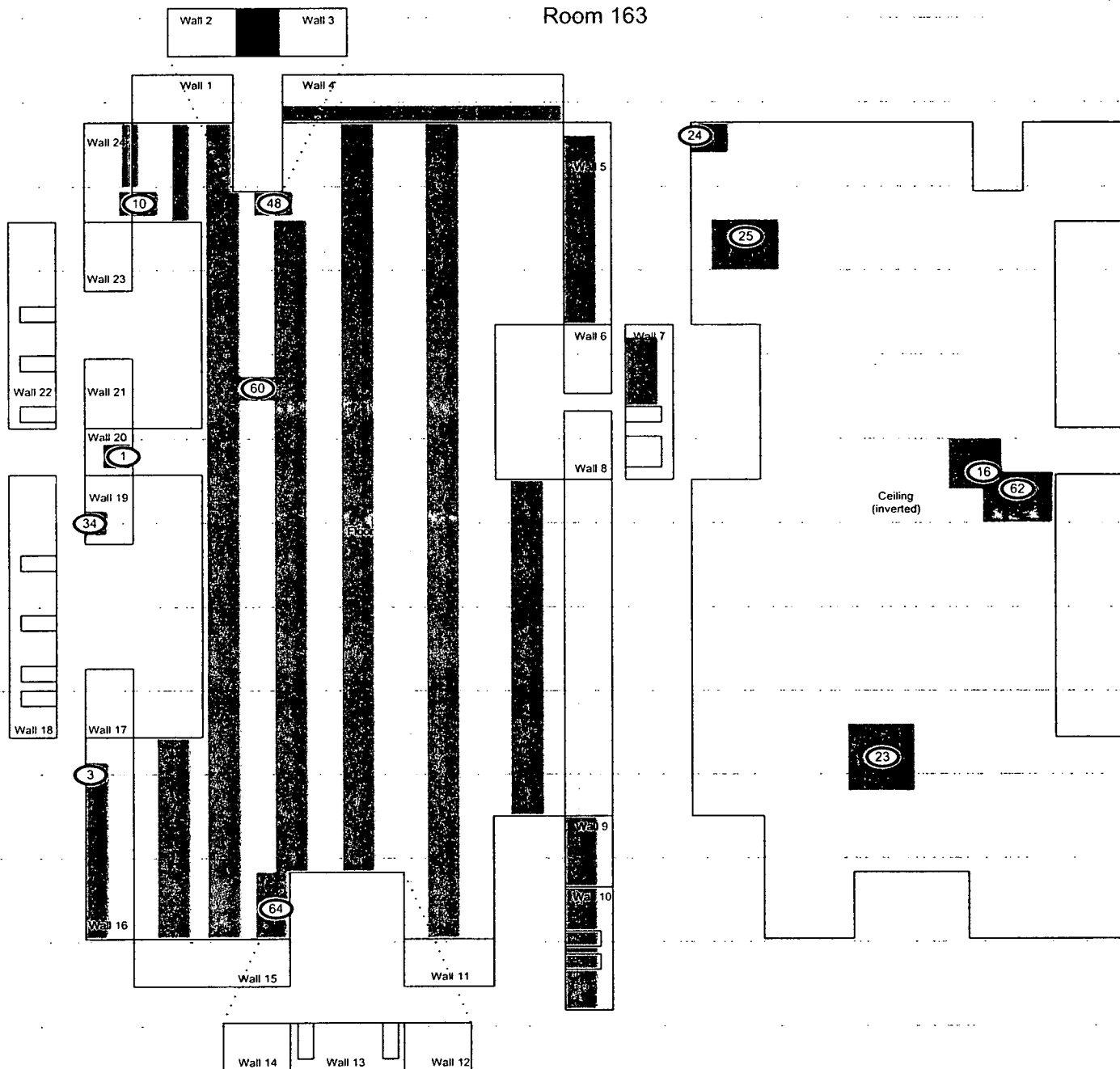
Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

Total Floor Area: 4,655 sq. m.

PAGE 10 OF 22

Room 163



SURVEY MAP LEGEND

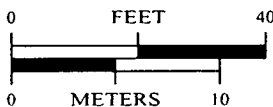
- Smear & TSA Location
- Smear, TSA & Sample Location
- Opcn/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17



1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138/460_p10_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

Building: 460

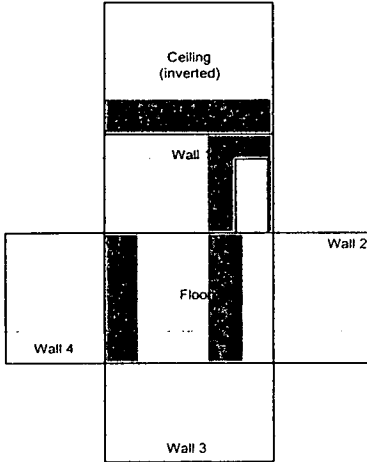
Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

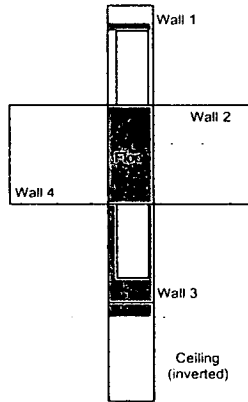
Total Floor Area: 4,655 sq. m.

PAGE 11 OF 22

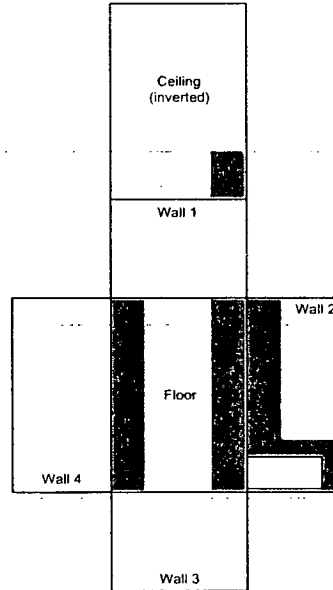
Room 163A



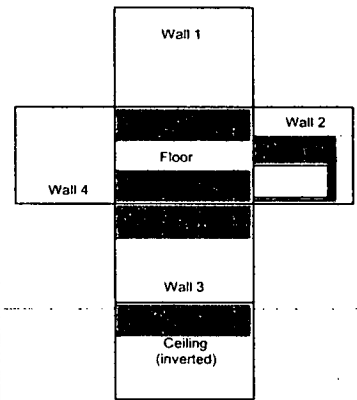
Room 163
(Entryway)



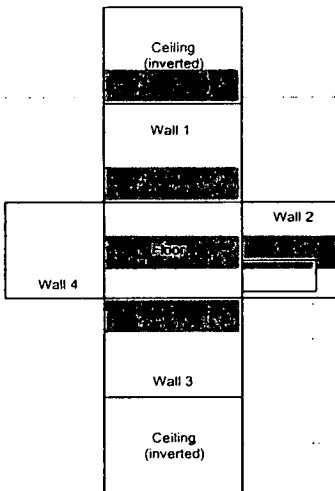
Room 163C



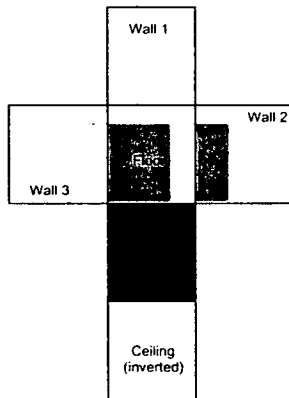
Room 163D



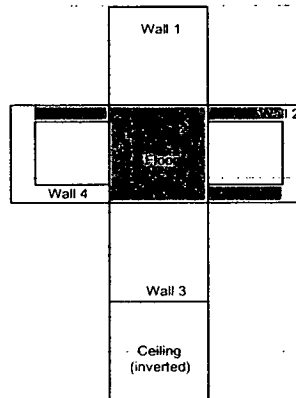
Room 163E



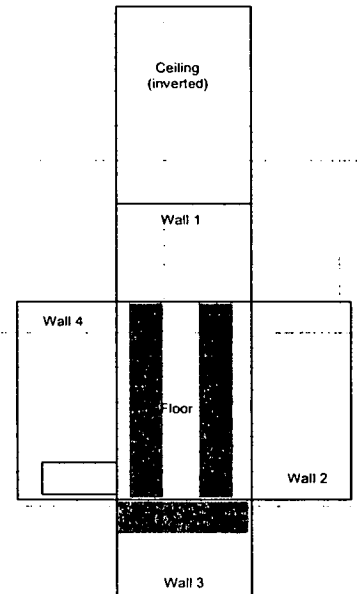
Room 163F



Room 163G



Room 163H

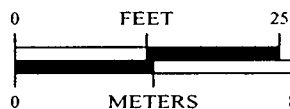


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138/460_p11_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

Building: 460

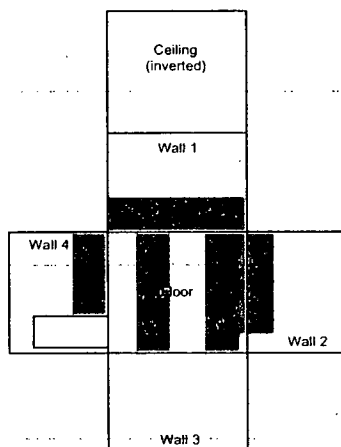
Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

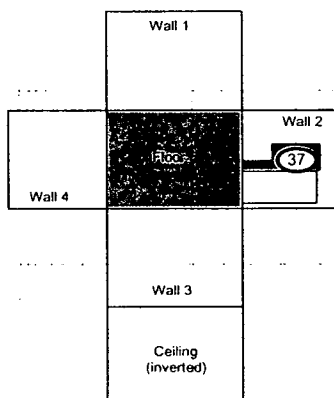
Total Floor Area: 4,655 sq. m.

PAGE 12 OF 22

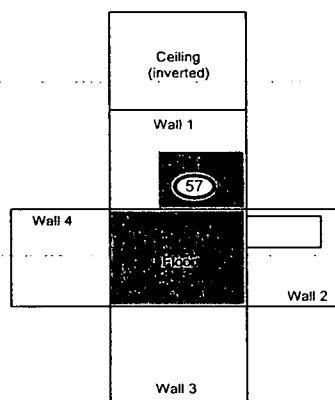
Room 163J



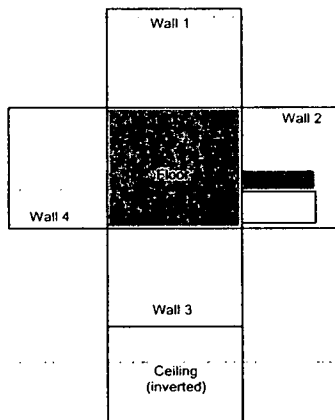
Room 163K



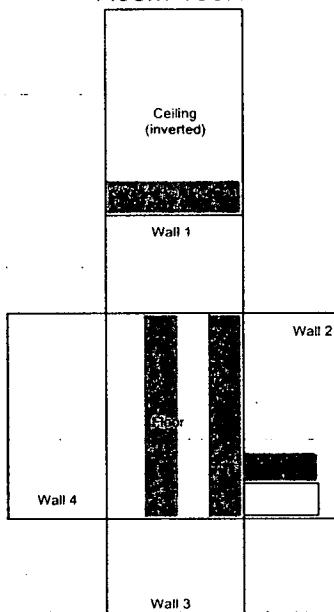
Room 163L



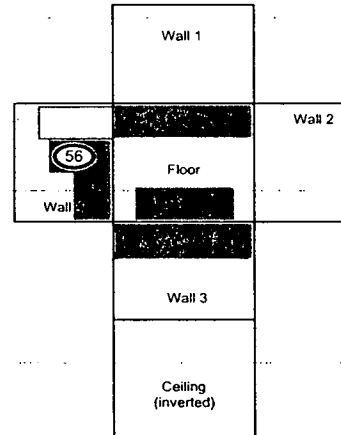
Room 163M



Room 163N



Room 163P

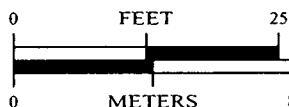


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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1 inch = 18 feet 1 grid sq. = 1 sq. m.

Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Consultants Group



MAP ID: 03-0138/460_p12_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

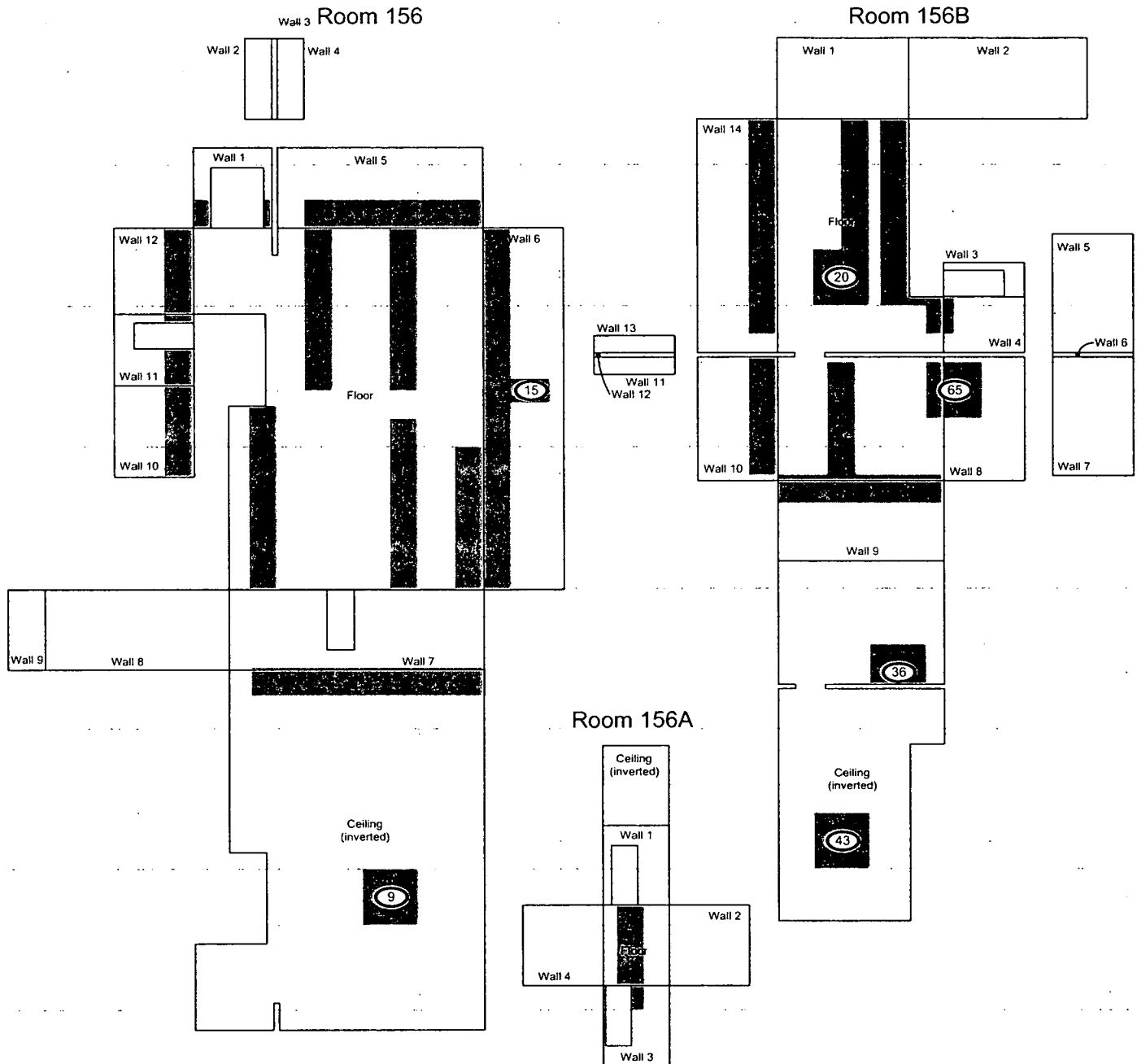
Building: 460

Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

Total Floor Area: 4,655 sq. m.

PAGE 13 OF 22



<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Smear & TSA Location Smear, TSA & Sample Location Open/Inaccessible Area Area in Another Survey Unit 	<p>Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p>	<p>N</p> <p>↑</p>	<p>0 25</p> <p>FEET</p> <p>0 8</p> <p>METERS</p> <p>1 inch = 18 feet 1 grid sq. = 1 sq. m.</p>	<p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIS Dept. 303-966-7707</p> <p>Prepared for:</p> <p>CH2MHILL Chemical Services Group</p> <p>KAISER HILL CONCRETE</p> <p>MAP ID: 03-0138/460_p13_SC</p> <p>Mar. 23, 2005</p>
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RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

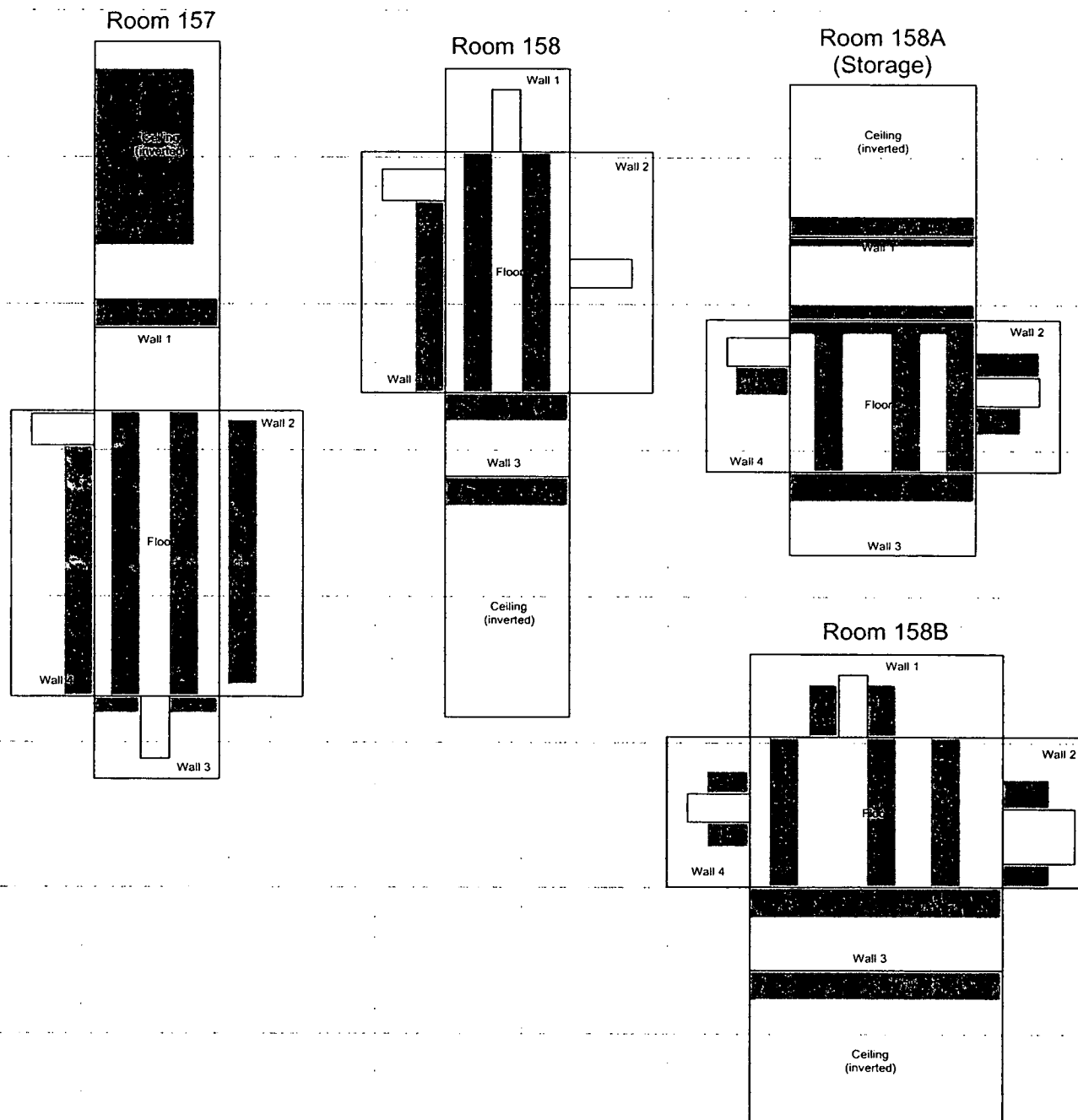
Building: 460

Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

Total Floor Area: 4,655 sq. m.

PAGE 14 OF 22



SURVEY MAP LEGEND Smcar & TSA Location Smcar, TSA & Sample Location Open/Inaccessible Area Area in Another Survey Unit		Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.						U.S. Department of Energy Rocky Flats Environmental Technology Site Prepared by: GIS Dept. 303-966-7707		Prepared for:	
Scan Survey Information Scan Survey Instrument ID #(s) & RCT ID #(s): 2, 4, 5, 8-12, 14, 15, 17						1 inch = 18 feet 1 grid sq. = 1 sq. m.		MAP ID: 03-0138/460_p14_SC		Mar. 23, 2005	

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

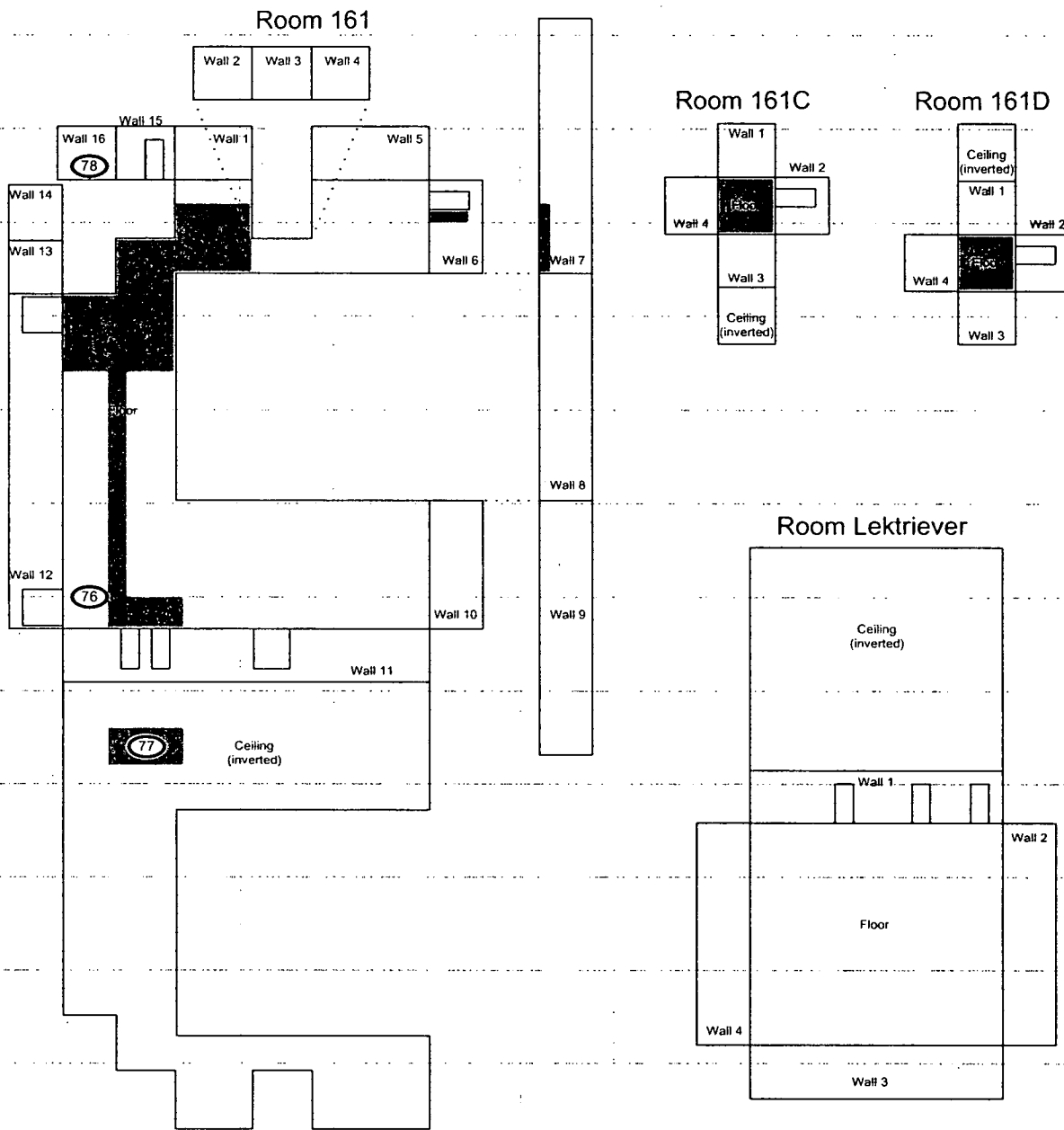
Building: 460

Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

Total Floor Area: 4,655 sq. m.

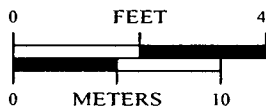
PAGE 15 OF 22



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138/460_p15_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

Building: 460

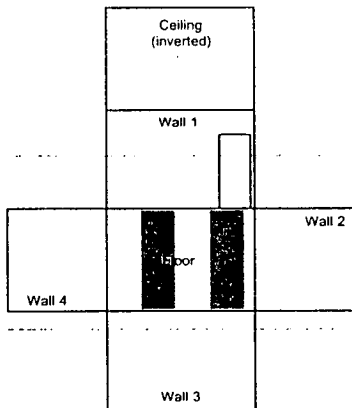
Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

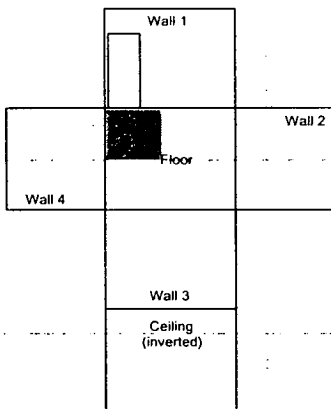
Total Floor Area: 4,655 sq. m.

PAGE 16 OF 22

Room 161A



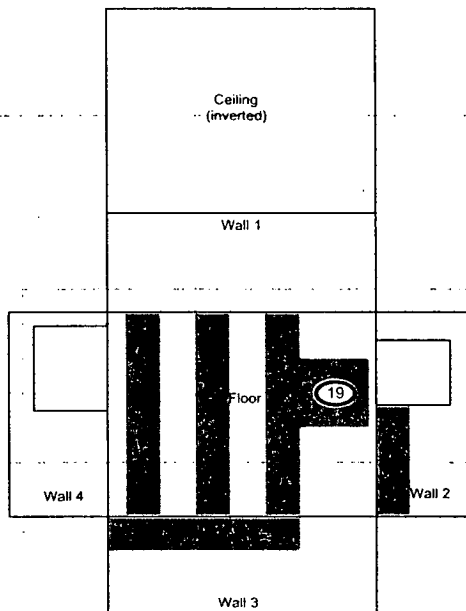
Room 161B



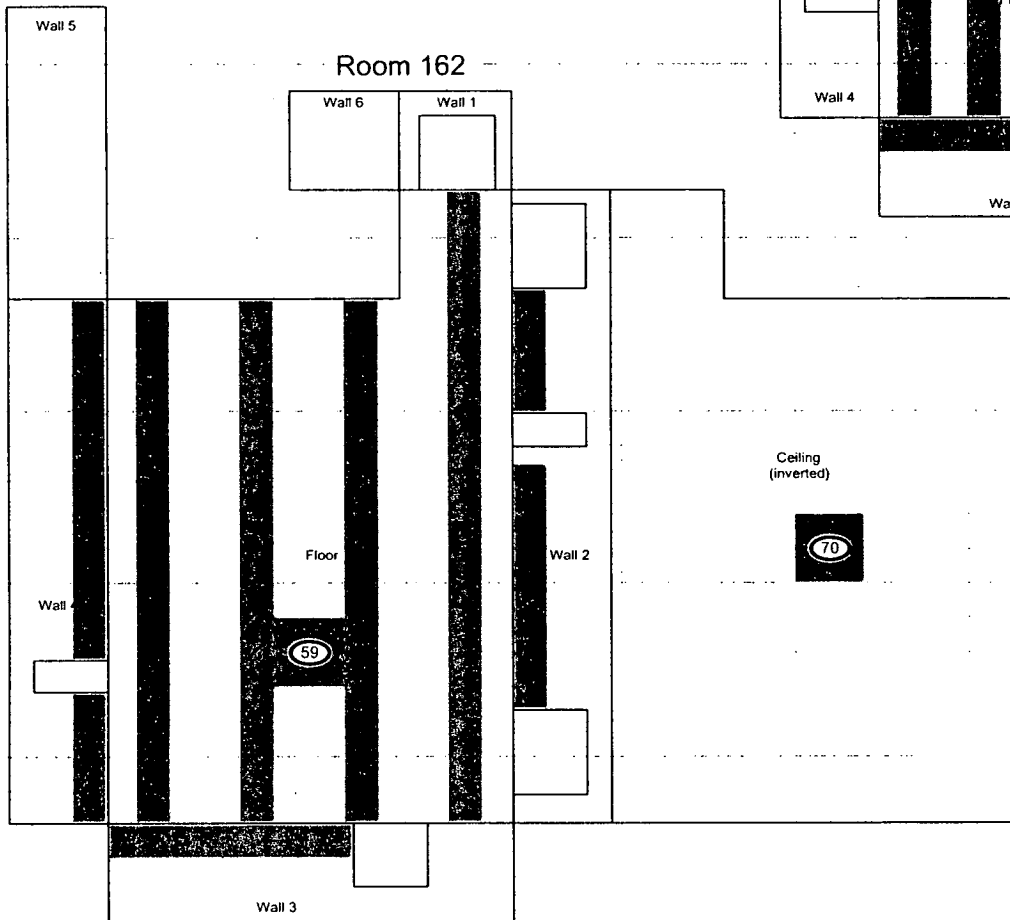
Room 162A

Dock Area/

Warehouse



Room 162



Scan Area

SURVEY MAP LEGEND

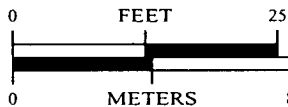
- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):

2, 4, 5, 8-12, 14, 15, 17



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group

KAISER HILL

MAP ID: 03-0138/460_p16_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

Building: 460

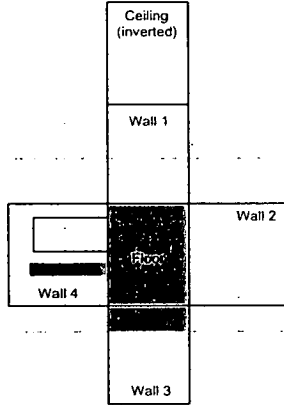
Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

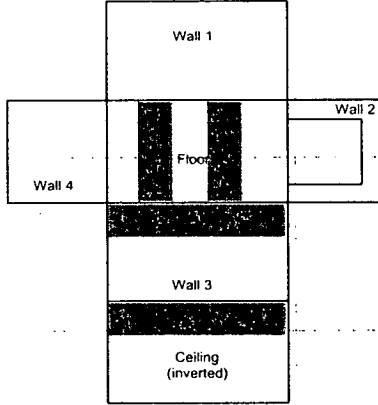
Total Floor Area: 4,655 sq. m.

PAGE 17 OF 22

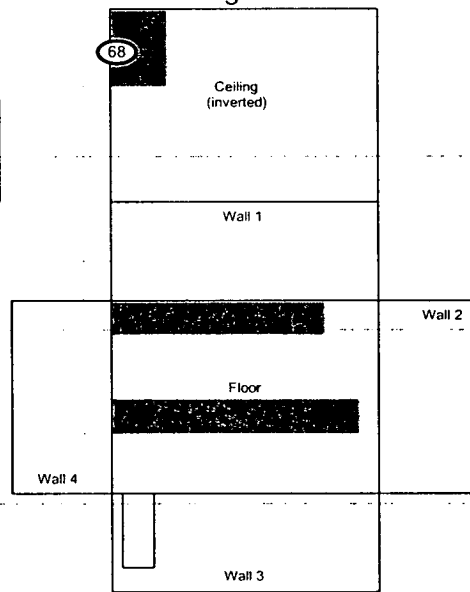
Room 162B



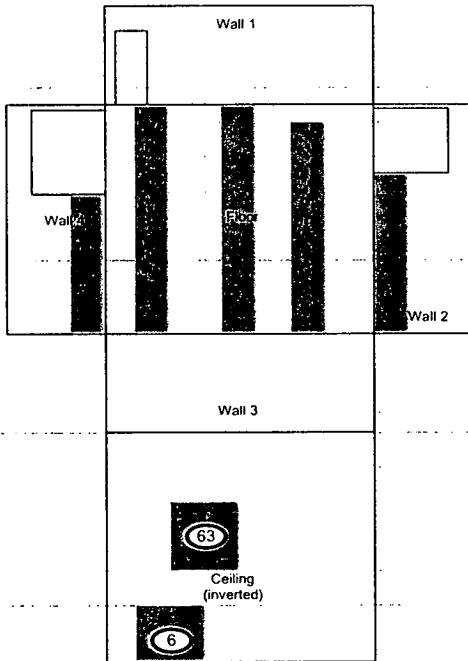
Room 162F
Elevator



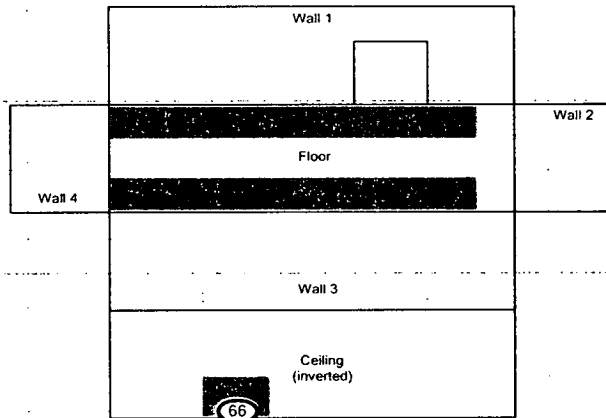
Room 162C
Storage Area



Room 162D
Storage Area



Room 162G

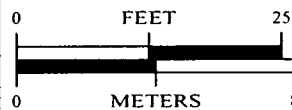


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):

2, 4, 5, 8-12, 14, 15, 17

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138/460_p17_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5
Building: 460

Survey Unit: 460003

Classification: 3

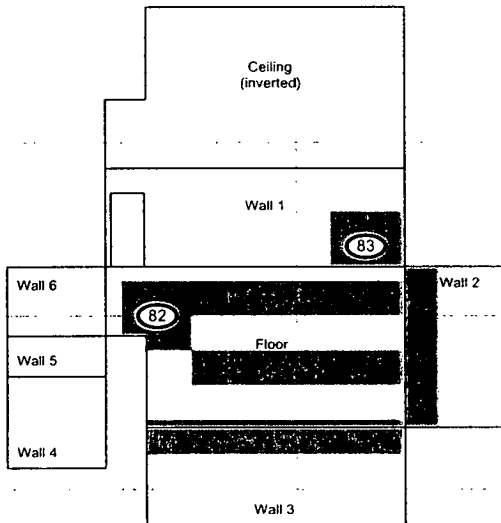
Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

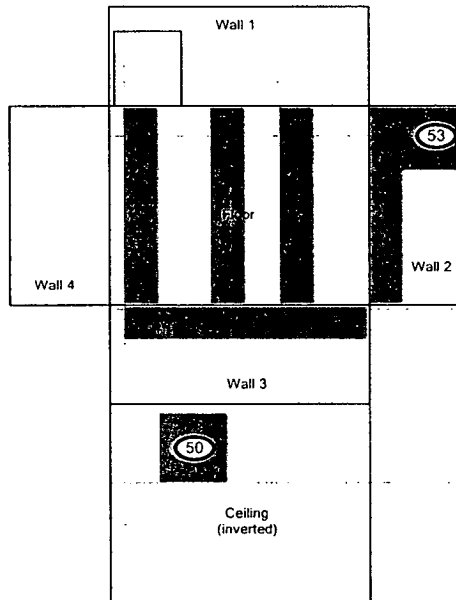
Total Floor Area: 4,655 sq. m.

PAGE 18 OF 22

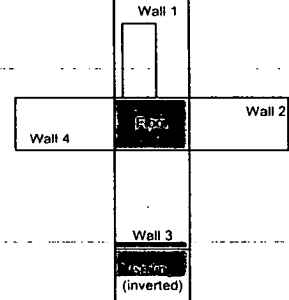
Room 101



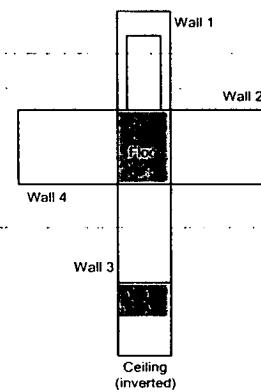
Room 104
Laundry



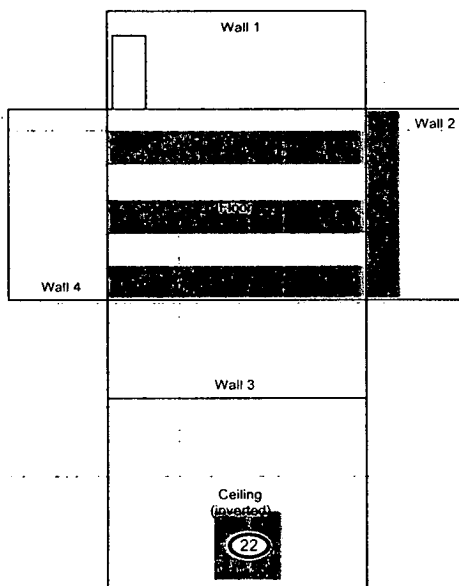
Room 106
Closet



Room 108



Room 105
Video
Teleconference

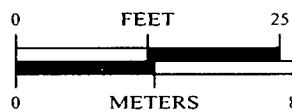


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



MAP ID: 03-0138/460_p18_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

Building: 460

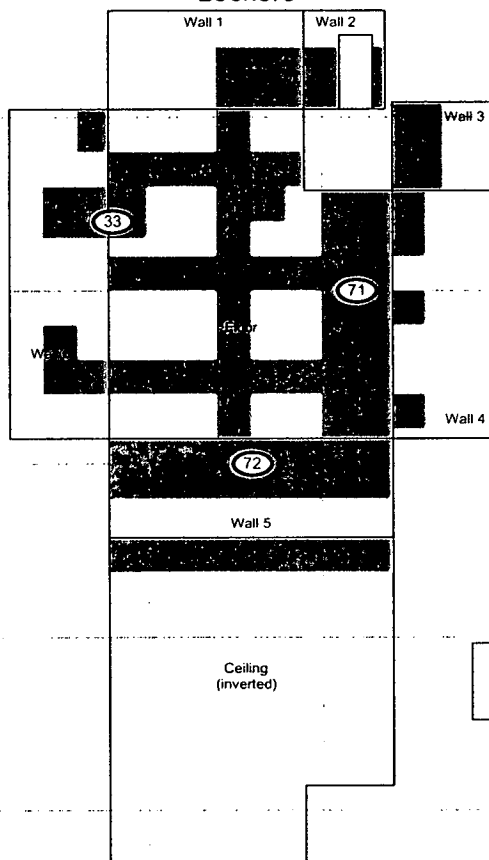
Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

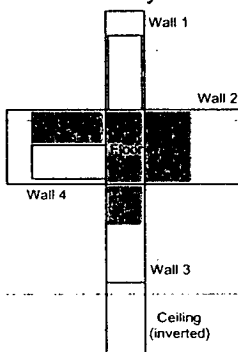
Total Floor Area: 4,655 sq. m.

PAGE 19 OF 22

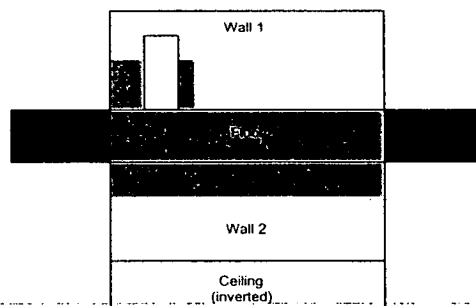
Room 109
Women's Restroom &
Lockers



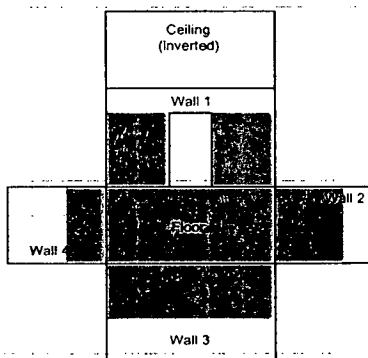
Room 109
Entry



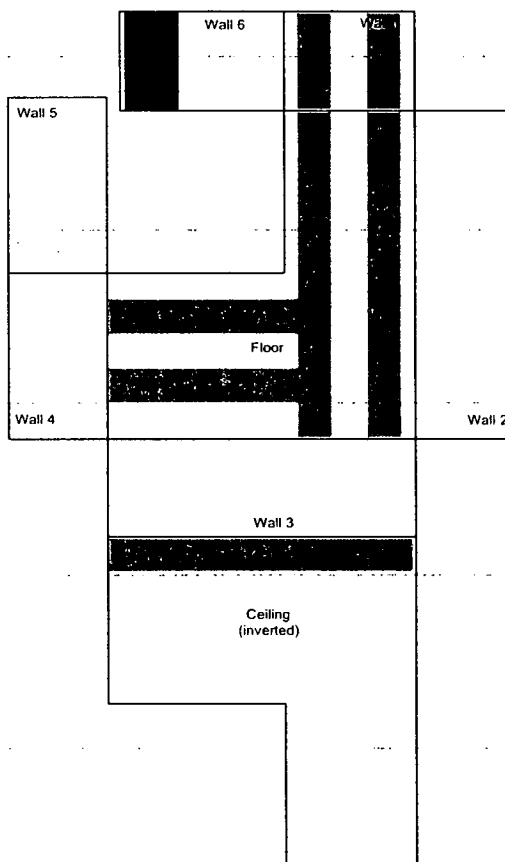
Room 110
Hallway



Room 110A
Showers



Room 110D
Men's Lockers

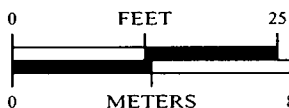


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138/460_p19_SC

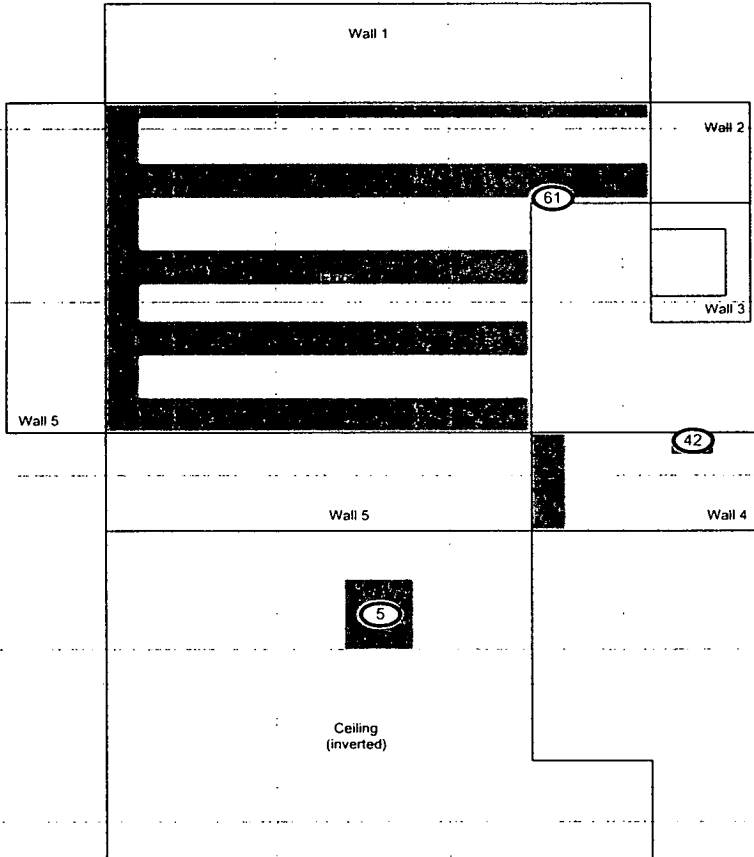
Mar. 23, 2005

RLC FOR B460

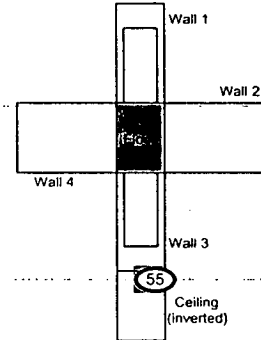
Survey Area: 5 Survey Unit: 460003 Classification: 3
 Building: 460
 Survey Unit Description: 460 Interior 1st Floor South Offices
 Total Area: 18,117 sq. m. Total Floor Area: 4,655 sq. m.

PAGE 20 OF 22

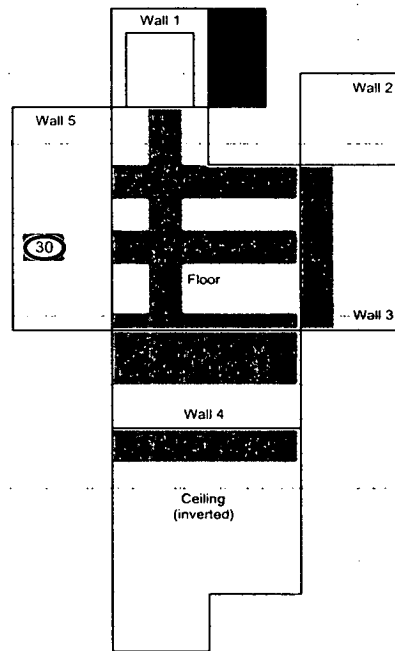
Room 110
Men's Lockers



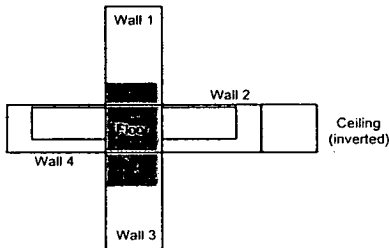
Room 110
Entry



Room 110B
Men's Restroom



Room 110 C



Scan Area

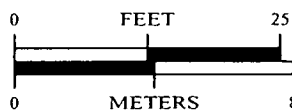
SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 2, 4, 5, 8-12, 14, 15, 17



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group



MAP ID: 03-0138/460_p20_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460003

Classification: 3

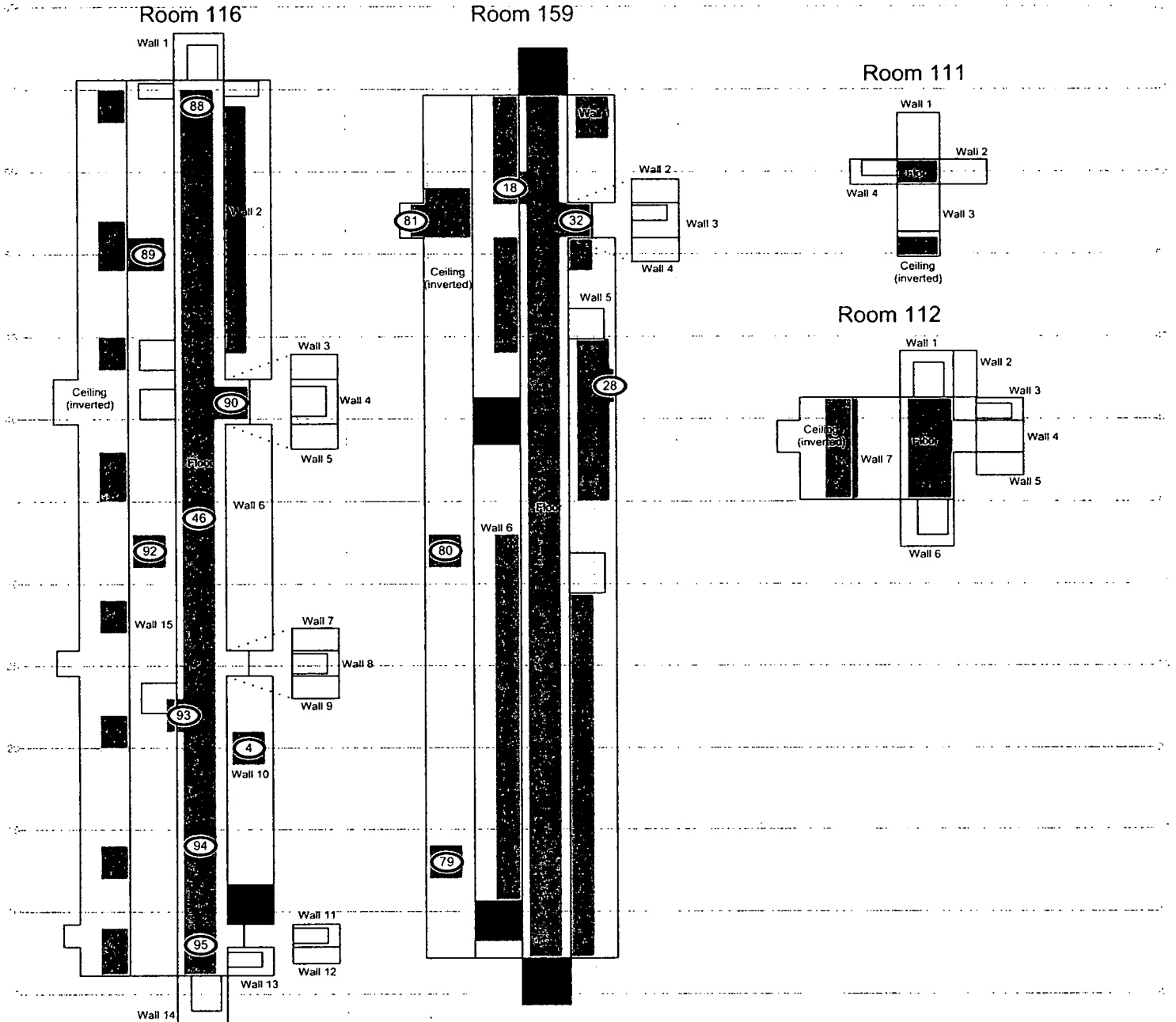
Building: 460

Survey Unit Description: 460 Interior 1st Floor South Offices

Total Area: 18,117 sq. m.

Total Floor Area: 4,655 sq. m.

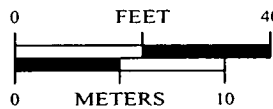
PAGE 21 OF 22



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
2, 4, 5, 8-12, 14, 15, 17

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138/460_p21_SC

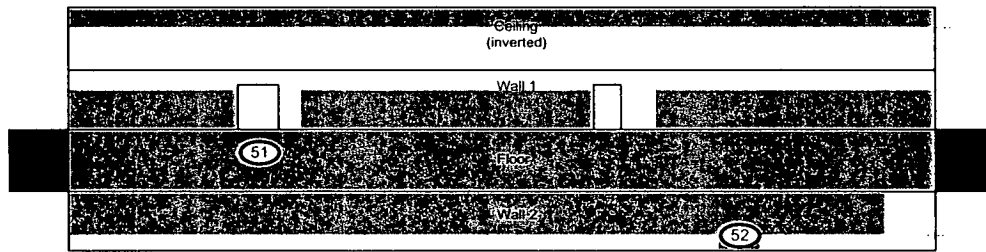
Mar. 23, 2005

RLC FOR B460

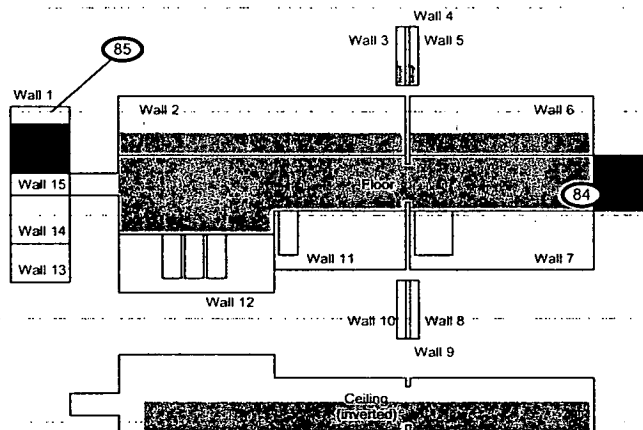
Survey Area: 5 Survey Unit: 460003 Classification: 3
 Building: 460
 Survey Unit Description: 460 Interior 1st Floor South Offices
 Total Area: 18,117 sq. m. Total Floor Area: 4,655 sq. m.

PAGE 22 OF 22

Room 107



Room 102

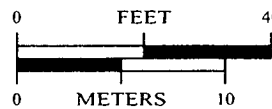


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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1 inch = 30 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 2, 4, 5, 8-12, 14, 15, 17

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Construction Group



MAP ID: 03-0138/460P22_SC

Mar. 23, 2005

Survey Area: 5**Survey Unit:** 460504**Building:** 460**Description:** Building 460, 2nd Floor Office Area Interior, all surfaces

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 64

Nbr Biased Measurements Required: 25

Nbr QC Required: 4

Nbr Random Measurements Performed: 64

Nbr Biased Measurements Performed: 25

Nbr QC Performed: 4

Alpha

Maximum: 64.1 dpm/100cm²Minimum: -12.8 dpm/100cm²Mean: 17.2 dpm/100cm²

Standard Deviation: 14.8

QC Maximum: 22.2 dpm/100cm²QC Minimum: -14.0 dpm/100cm²QC Mean: 6.2 dpm/100cm²Transuranic DCGL_w: 100.0 dpm/100cm²Transuranic DCGL_{EMC}: 300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 64

Nbr Biased Measurements Required: 25

Nbr Random Measurements Performed: 64

Nbr Biased Measurements Performed: 25

Alpha

Maximum: 5.8 dpm/100cm²Minimum: -1.8 dpm/100cm²Mean: 0.5 dpm/100cm²

Standard Deviation: 1.8

Transuranic DCGL_w: 20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 5

Survey Unit: 460504

Building: 460

Description: Building 460, 2nd Floor Office Area Interior, all surfaces

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	511390	03/21/05	Electra	3109	DP-6	06/13/05	0.215	NA	48.0	NA	T/S
2	701418	03/21/05	Electra	2352	DP-6	06/09/05	0.221	NA	48.0	NA	T/S
3	515538	03/21/05	Electra	673	AP-6	07/24/05	0.173	NA	48.0	NA	S
4	701418	03/21/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
5	515538	03/21/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
6	511390	03/21/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
7	511390	03/21/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R
8	511390	03/22/05	Electra	3109	DP-6	06/13/05	0.215	NA	48.0	NA	T/S
9	515538	03/22/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
10	701418	03/22/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
11	515538	03/22/05	Electra	673	AP-6	07/24/05	0.173	NA	48.0	NA	S
12	511390	03/22/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
13	511390	03/22/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R
14	515538	03/22/05	Electra	2352	DP-6	06/09/05	0.221	NA	48.0	NA	Q

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5

Survey Unit: 460504

Building: 460

Description: Building 460, 2nd Floor Office Area Interior, all surfaces

Comments Sheet

General N/A
Comments:

TSA N/A
Comments:

RSA N/A
Comments:

Media N/A
Comments:

Survey Area: 5

Survey Unit: 460504

Building: 460

Description: Building 460, 2nd Floor Office Area Interior, all surfaces

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460504PRP-N001	12	1.5	N/A	N/A
460504PRP-N002	13	-1.8	N/A	N/A
460504PRP-N003	12	0.0	N/A	N/A
460504PRP-N004	6	2.1	N/A	N/A
460504PRP-N005	7	-1.8	N/A	N/A
460504PRP-N006	13	-1.8	N/A	N/A
460504PRP-N007	6	-0.9	N/A	N/A
460504PRP-N008	13	-0.3	N/A	N/A
460504PRP-N009	6	-0.9	N/A	N/A
460504PRP-N010	6	-0.9	N/A	N/A
460504PRP-N011	7	1.2	N/A	N/A
460504PRP-N012	13	1.2	N/A	N/A
460504PRP-N013	6	0.6	N/A	N/A
460504PRP-N014	6	0.6	N/A	N/A
460504PRP-N015	12	0.0	N/A	N/A
460504PRP-N016	12	1.5	N/A	N/A
460504PRP-N017	6	-0.9	N/A	N/A
460504PRP-N018	12	0.0	N/A	N/A
460504PRP-N019	13	-0.3	N/A	N/A
460504PRP-N020	13	-1.8	N/A	N/A
460504PRP-N021	12	0.0	N/A	N/A
460504PRP-N022	12	0.0	N/A	N/A
460504PRP-N023	6	-0.9	N/A	N/A
460504PRP-N024	7	-1.8	N/A	N/A
460504PRP-N025	7	1.2	N/A	N/A
460504PRP-N026	13	-0.3	N/A	N/A
460504PRP-N027	13	-1.8	N/A	N/A
460504PRP-N028	7	4.3	N/A	N/A
460504PRP-N029	7	5.8	N/A	N/A

Survey Area: 5

Survey Unit: 460504

Building: 460

Description: Building 460, 2nd Floor Office Area Interior, all surfaces

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460504PRP-N030	6	0.6	N/A	N/A
460504PRP-N031	6	-0.9	N/A	N/A
460504PRP-N032	12	1.5	N/A	N/A
460504PRP-N033	7	-1.8	N/A	N/A
460504PRP-N034	12	0.0	N/A	N/A
460504PRP-N035	7	2.7	N/A	N/A
460504PRP-N036	7	-0.3	N/A	N/A
460504PRP-N037	12	0.0	N/A	N/A
460504PRP-N038	7	1.2	N/A	N/A
460504PRP-N039	12	0.0	N/A	N/A
460504PRP-N040	13	1.2	N/A	N/A
460504PRP-N041	6	0.6	N/A	N/A
460504PRP-N042	6	5.2	N/A	N/A
460504PRP-N043	6	-0.9	N/A	N/A
460504PRP-N044	6	-0.9	N/A	N/A
460504PRP-N045	6	0.6	N/A	N/A
460504PRP-N046	12	0.0	N/A	N/A
460504PRP-N047	6	-0.9	N/A	N/A
460504PRP-N048	7	4.3	N/A	N/A
460504PRP-N049	13	-0.3	N/A	N/A
460504PRP-N050	7	-1.8	N/A	N/A
460504PRP-N051	12	0.0	N/A	N/A
460504PRP-N052	7	-0.3	N/A	N/A
460504PRP-N053	13	-1.8	N/A	N/A
460504PRP-N054	6	-0.9	N/A	N/A
460504PRP-N055	7	5.8	N/A	N/A
460504PRP-N056	13	2.7	N/A	N/A
460504PRP-N057	7	1.2	N/A	N/A
460504PRP-N058	12	0.0	N/A	N/A

Survey Area: 5**Survey Unit:** 460504**Building:** 460**Description:** Building 460, 2nd Floor Office Area Interior, all surfaces

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460504PRP-N059	7	1.2	N/A	N/A
460504PRP-N060	12	0.0	N/A	N/A
460504PRP-N061	13	-1.8	N/A	N/A
460504PRP-N062	13	-0.3	N/A	N/A
460504PRP-N063	7	1.2	N/A	N/A
460504PRP-N064	13	-0.3	N/A	N/A

Survey Area: 5

Survey Unit: 460504

Building: 460

Description: Building 460, 2nd Floor Office Area Interior; all surfaces

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460504PBP-N065	6	3.6	N/A	N/A
460504PBP-N066	7	-0.3	N/A	N/A
460504PBP-N067	6	-0.9	N/A	N/A
460504PBP-N068	7	1.2	N/A	N/A
460504PBP-N069	7	2.7	N/A	N/A
460504PBP-N070	13	-1.8	N/A	N/A
460504PBP-N071	13	-0.3	N/A	N/A
460504PBP-N072	12	3.0	N/A	N/A
460504PBP-N073	13	2.7	N/A	N/A
460504PBP-N074	12	0.0	N/A	N/A
460504PBP-N075	13	-1.8	N/A	N/A
460504PBP-N076	12	3.0	N/A	N/A
460504PBP-N077	13	1.2	N/A	N/A
460504PBP-N078	12	1.5	N/A	N/A
460504PBP-N079	13	-1.8	N/A	N/A
460504PBP-N080	12	0.0	N/A	N/A
460504PBP-N081	13	-0.3	N/A	N/A
460504PBP-N082	12	0.0	N/A	N/A
460504PBP-N083	13	4.3	N/A	N/A
460504PBP-N084	12	0.0	N/A	N/A
460504PBP-N085	13	1.2	N/A	N/A
460504PBP-N086	12	1.5	N/A	N/A
460504PBP-N087	13	-0.3	N/A	N/A
460504PBP-N088	12	0.0	N/A	N/A
460504PBP-N089	13	4.3	N/A	N/A

Survey Area: 5

Survey Unit: 460504

Building: 460

Description: Building 460, 2nd Floor Office Area Interior, all surfaces

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460504PRP-N001	8	8.7	N/A	N/A
460504PRP-N002	8	15.2	N/A	N/A
460504PRP-N003	8	27.3	N/A	N/A
460504QRP-N003	14	9.5	N/A	N/A
460504PRP-N004	1	18.0	N/A	N/A
460504PRP-N005	4	39.5	N/A	N/A
460504QRP-N005	14	-14.0	N/A	N/A
460504PRP-N006	10	-8.2	N/A	N/A
460504PRP-N007	4	8.5	N/A	N/A
460504PRP-N008	8	-10.0	N/A	N/A
460504PRP-N009	1	11.9	N/A	N/A
460504PRP-N010	5	-6.8	N/A	N/A
460504PRP-N011	5	2.5	N/A	N/A
460504PRP-N012	9	15.0	N/A	N/A
460504PRP-N013	1	21.2	N/A	N/A
460504PRP-N014	1	30.5	N/A	N/A
460504PRP-N015	9	30.3	N/A	N/A
460504PRP-N016	8	18.0	N/A	N/A
460504PRP-N017	1	2.6	N/A	N/A
460504PRP-N018	8	2.6	N/A	N/A
460504PRP-N019	8	27.3	N/A	N/A
460504PRP-N020	8	21.2	N/A	N/A
460504PRP-N021	9	11.7	N/A	N/A
460504PRP-N022	9	21.0	N/A	N/A
460504PRP-N023	1	21.2	N/A	N/A
460504PRP-N024	5	2.5	N/A	N/A
460504PRP-N025	4	64.1	N/A	N/A

Survey Area: 5

Survey Unit: 460504

Building: 460

Description: Building 460, 2nd Floor Office Area Interior, all surfaces

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460504QRP-N025	14	22.2	N/A	N/A
460504PRP-N026	8	8.7	N/A	N/A
460504PRP-N027	9	11.7	N/A	N/A
460504PRP-N028	4	33.5	N/A	N/A
460504PRP-N029	4	30.3	N/A	N/A
460504PRP-N030	4	17.8	N/A	N/A
460504PRP-N031	1	2.6	N/A	N/A
460504PRP-N032	9	21.0	N/A	N/A
460504PRP-N033	9	-12.8	N/A	N/A
460504PRP-N034	9	39.5	N/A	N/A
460504PRP-N035	1	27.3	N/A	N/A
460504PRP-N036	1	33.8	N/A	N/A
460504PRP-N037	9	17.8	N/A	N/A
460504PRP-N038	4	21.0	N/A	N/A
460504PRP-N039	8	5.9	N/A	N/A
460504PRP-N040	9	33.5	N/A	N/A
460504PRP-N041	2	16.8	N/A	N/A
460504PRP-N042	4	36.3	N/A	N/A
460504PRP-N043	1	2.6	N/A	N/A
460504PRP-N044	4	30.3	N/A	N/A
460504PRP-N045	1	-3.4	N/A	N/A
460504PRP-N046	8	-10.0	N/A	N/A
460504PRP-N047	1	27.3	N/A	N/A
460504PRP-N048	1	2.6	N/A	N/A
460504PRP-N049	9	24.2	N/A	N/A
460504PRP-N050	2	-1.3	N/A	N/A
460504PRP-N051	10	36.3	N/A	N/A

Survey Area: 5**Survey Unit:** 460504**Building:** 460**Description:** Building 460, 2nd Floor Office Area Interior, all surfaces

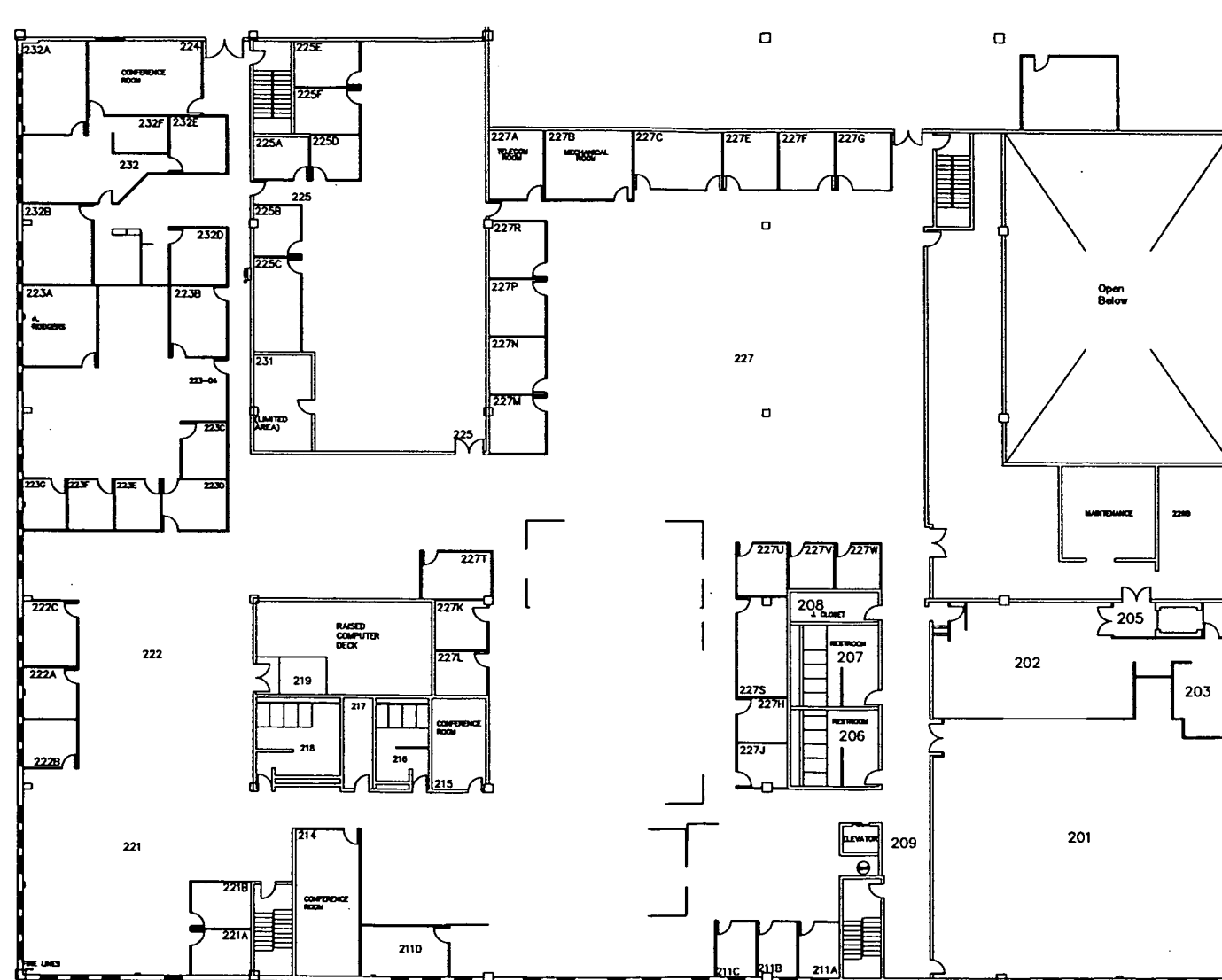
Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460504PRP-N052	1	11.9	N/A	N/A
460504PRP-N053	8	11.9	N/A	N/A
460504PRP-N054	1	8.7	N/A	N/A
460504PRP-N055	1	-3.4	N/A	N/A
460504PRP-N056	9	5.7	N/A	N/A
460504PRP-N057	1	21.2	N/A	N/A
460504PRP-N058	10	52.0	N/A	N/A
460504PRP-N059	4	48.8	N/A	N/A
460504QRP-N059	14	6.8	N/A	N/A
460504PRP-N060	8	24.5	N/A	N/A
460504PRP-N061	9	21.0	N/A	N/A
460504PRP-N062	10	5.7	N/A	N/A
460504PRP-N063	4	17.8	N/A	N/A
460504PRP-N064	9	11.3	N/A	N/A

Survey Area: 5**Survey Unit:** 460504**Building:** 460**Description:** Building 460, 2nd Floor Office Area Interior, all surfaces.

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
460504PBP-N065	1	-6.6	N/A	N/A
460504PBP-N066	1	28.8	N/A	N/A
460504PBP-N067	1	16.7	N/A	N/A
460504PBP-N068	5	22.5	N/A	N/A
460504PBP-N069	5	13.2	N/A	N/A
460504PBP-N070	8	13.4	N/A	N/A
460504PBP-N071	8	28.8	N/A	N/A
460504PBP-N072	8	16.7	N/A	N/A
460504PBP-N073	8	7.4	N/A	N/A
460504PBP-N074	8	33.4	N/A	N/A
460504PBP-N075	10	47.0	N/A	N/A
460504PBP-N076	8	32.0	N/A	N/A
460504PBP-N077	10	25.7	N/A	N/A
460504PBP-N078	8	18.1	N/A	N/A
460504PBP-N079	9	12.8	N/A	N/A
460504PBP-N080	8	4.1	N/A	N/A
460504PBP-N081	10	13.2	N/A	N/A
460504PBP-N082	8	10.2	N/A	N/A
460504PBP-N083	9	4.0	N/A	N/A
460504PBP-N084	10	4.0	N/A	N/A
460504PBP-N085	8	7.4	N/A	N/A
460504PBP-N086	10	25.7	N/A	N/A
460504PBP-N087	10	35.0	N/A	N/A
460504PBP-N088	10	28.5	N/A	N/A
460504PBP-N089	8	4.1	N/A	N/A



KEY MAP

Building 460 2nd Floor Offices

(Not intended for showing
survey/sample locations)

PAGE 2 OF 3

<div style="text-align: center;"> <p>0 FEET 45</p> <p>0 METERS 15</p> </div> <p style="font-size: small;">1 inch = 36 feet 1 grid sq. = 1 sq. m.</p>	<div style="text-align: center; font-size: small;"> U.S. Department of Energy Rocky Flats Environmental Technology Site </div> <div style="display: flex; justify-content: space-between; font-size: x-small;"> <div>Prepared by: GIS Dept. 303-966-7707</div> <div>Prepared for:</div> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <div style="text-align: center;"> CH2MHILL <small>Consultants Group</small> </div> <div style="text-align: center;"> KAISER HILL <small>Consultants Group</small> </div> </div> <div style="display: flex; justify-content: space-between; font-size: x-small; margin-top: 10px;"> <div>MAP ID: 03-0138/2Flr_Off_Key</div> <div>Sept. 16, 2004</div> </div>
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RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

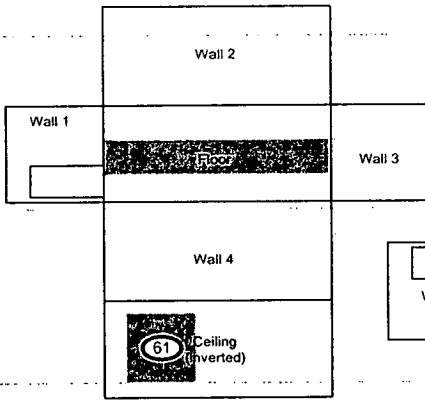
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

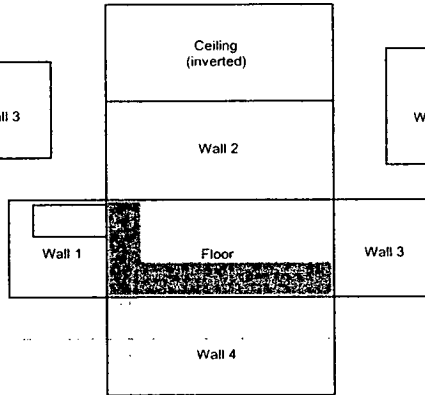
Total Floor Area: 4,207 sq. m.

PAGE 1 OF 22

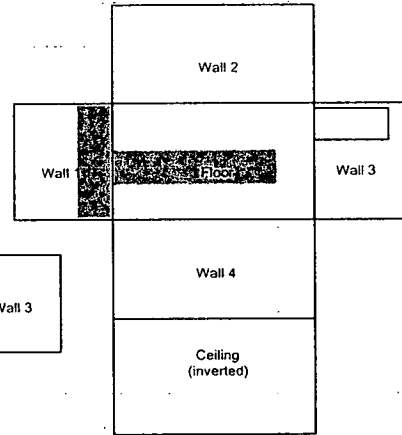
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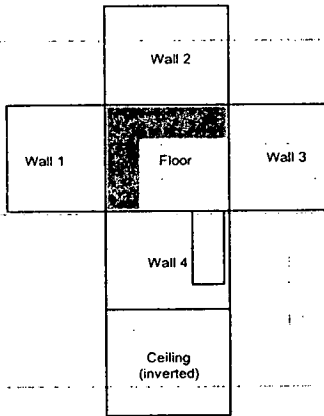
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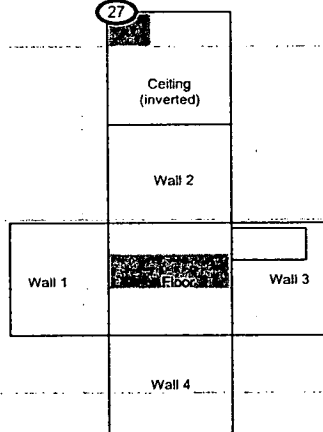
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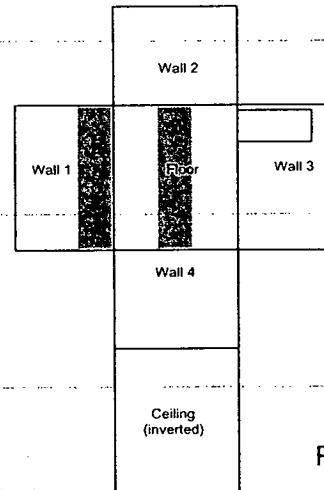
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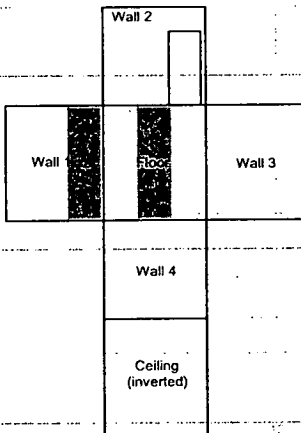
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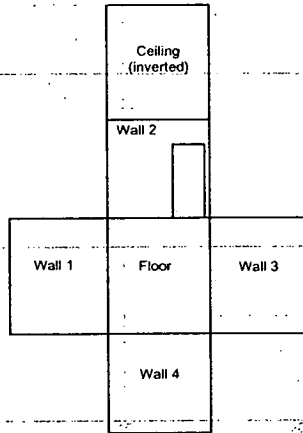
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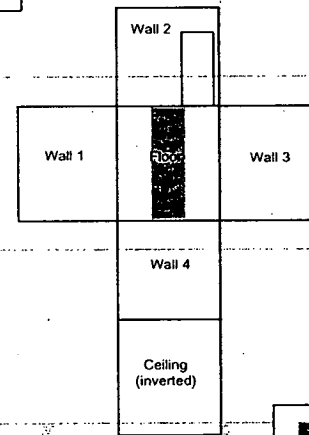
Room 223G



Room 223F



Room 223E



Scan Area

SURVEY MAP LEGEND

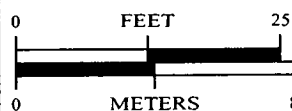
- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



Mar. 23, 2005

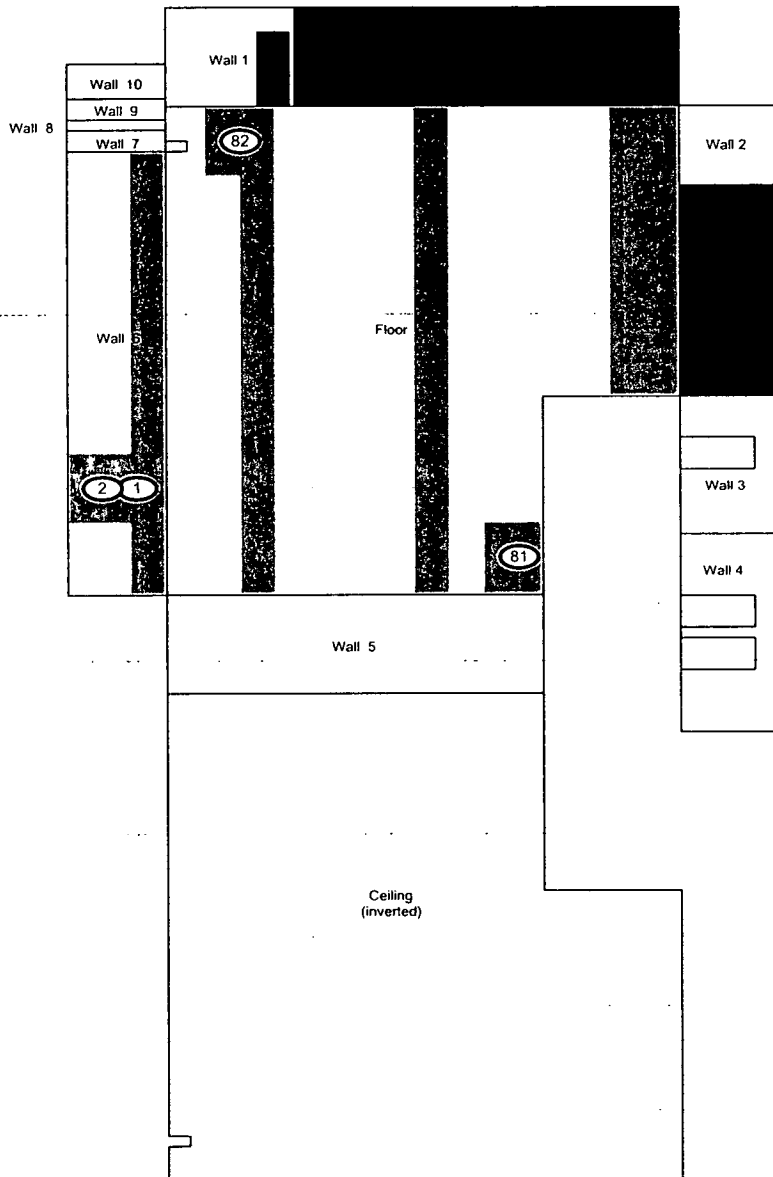
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RLC FOR B460

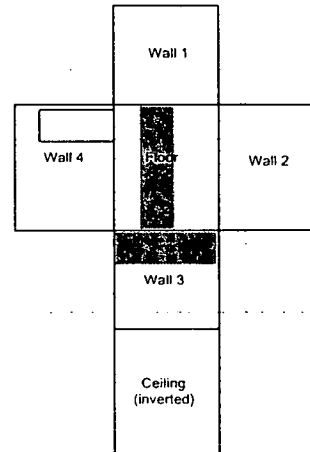
Survey Area: 5 Survey Unit: 460504 Classification: 3
 Building: 460
 Survey Unit Description: 460 Interior - 2nd Floor Offices
 Total Area: 11,453 sq. m. Total Floor Area: 4,207 sq. m.

PAGE 2 OF 22

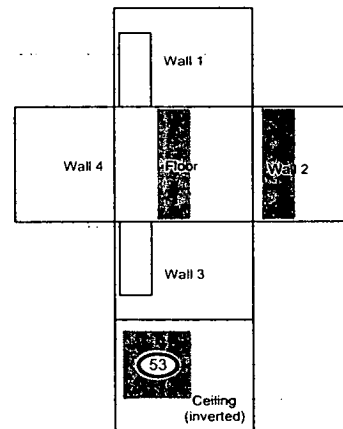
Room 221



Room 223 C



Room 223 D

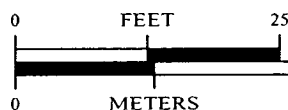


Scan Area

SURVEY MAP LEGEND

- ① Smear & TSA Location
- ② Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1-5, 8-11

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 CONSULTING GROUP



MAP ID: 03-0138460_sht2_SC

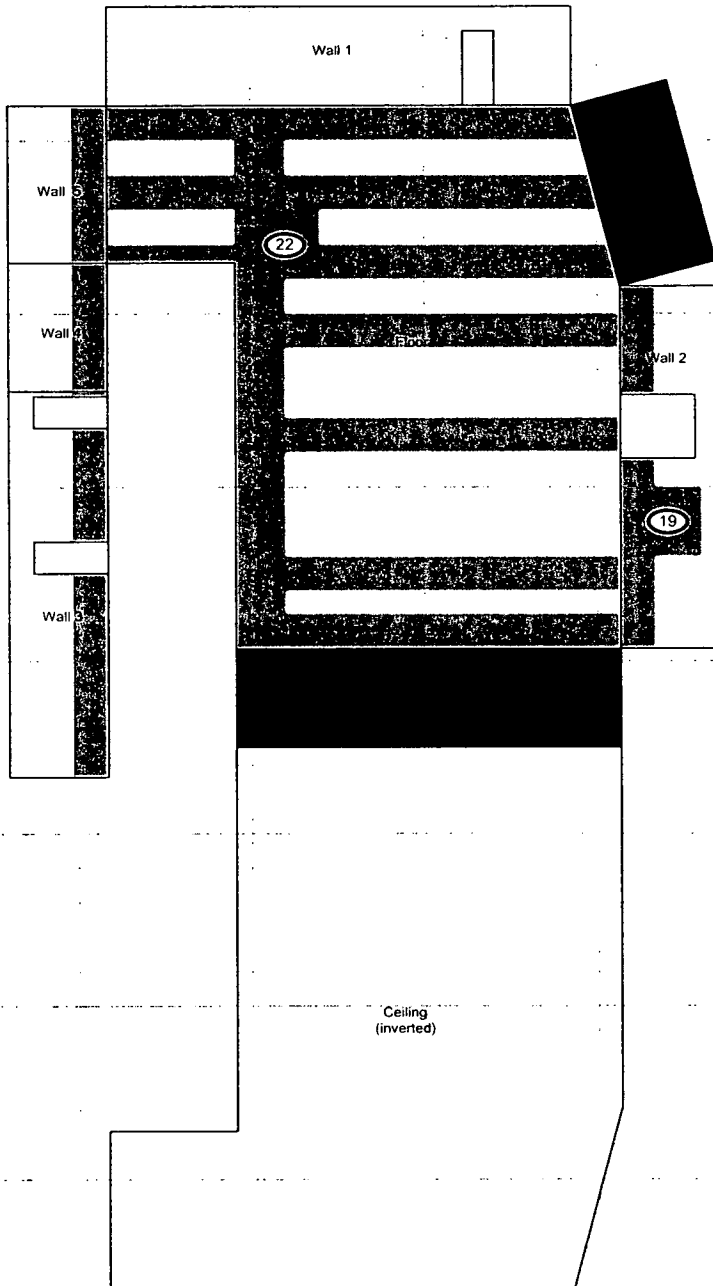
Mar. 23, 2005

RLC FOR B460

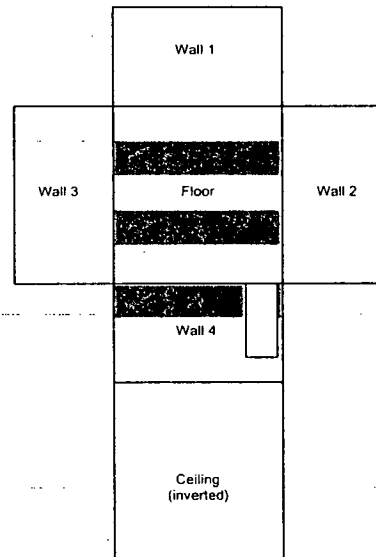
Survey Area: 5 Survey Unit: 460504 Classification: 3
 Building: 460
 Survey Unit Description: 460 Interior - 2nd Floor Offices
 Total Area: 11,453 sq. m. Total Floor Area: 4,207 sq. m.

PAGE 3 OF 22

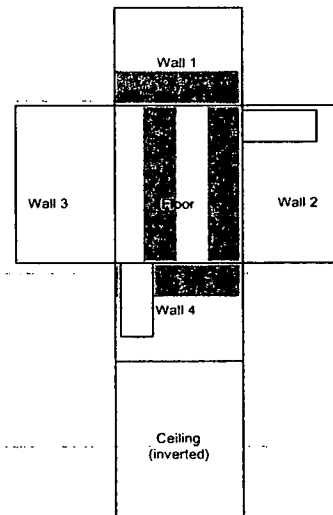
Room 222



Room 223 A



Room 223 B



Scan Area

SURVEY MAP LEGEND

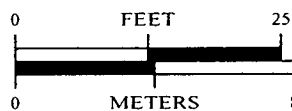
- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
 1-5, 8-11



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 A CH2M GROUP COMPANY



MAP ID: 03-0138460_sht3_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

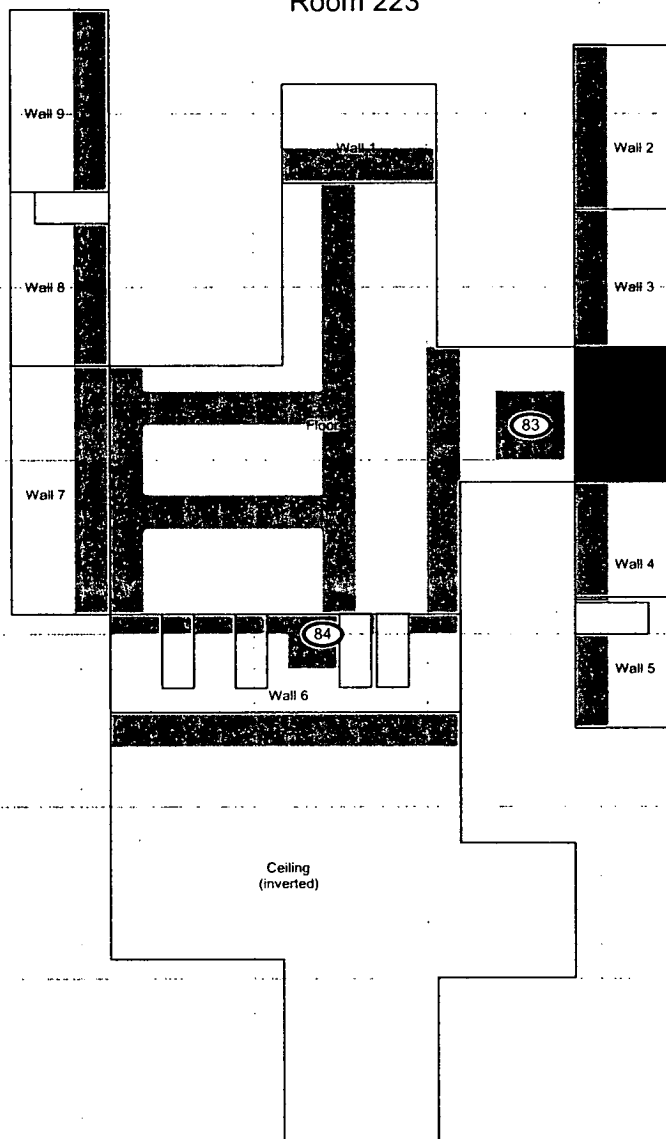
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

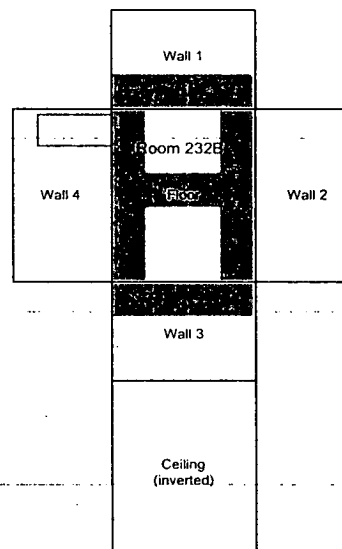
Total Floor Area: 4,207 sq. m.

PAGE 4 OF 22

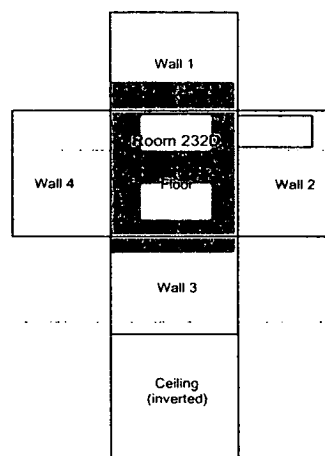
Room 223



Room 232 B



Room 232 D

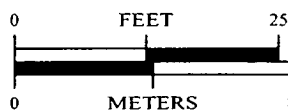


Scan Area

SURVEY MAP LEGEND

- ① Smear & TSA Location
- ② Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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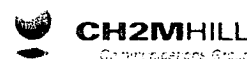
Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



MAP ID: 03-0138460_sh14_SC

Mar. 23, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

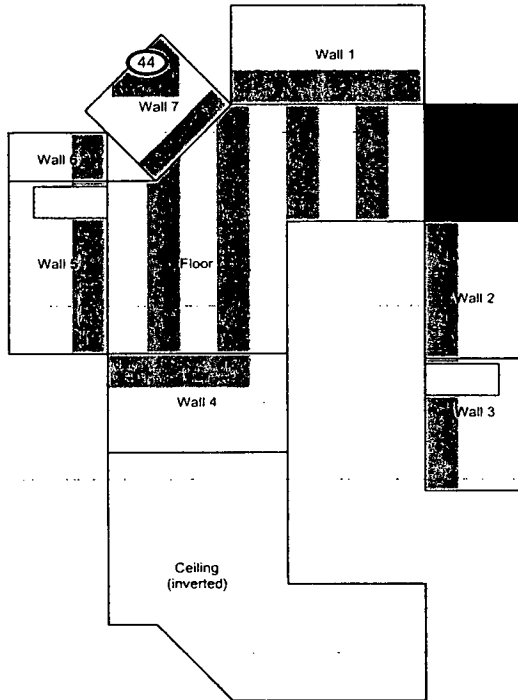
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

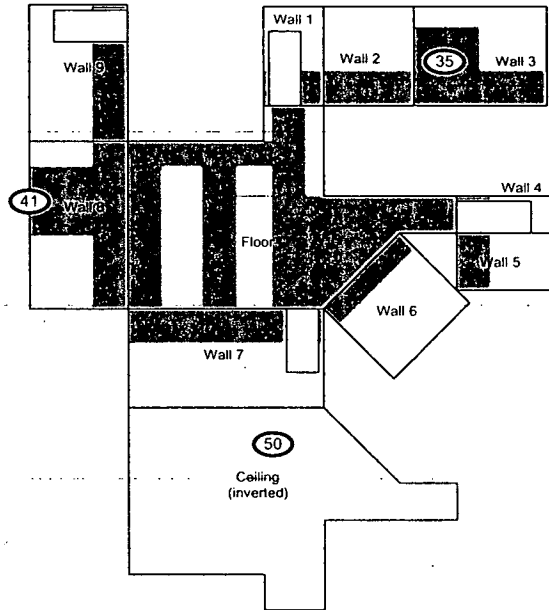
Total Floor Area: 4,207 sq. m.

PAGE 5 OF 22

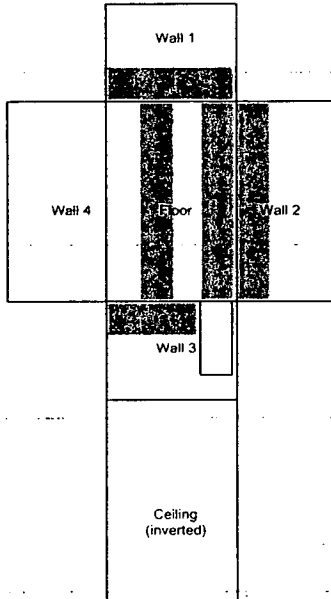
Room 232 C



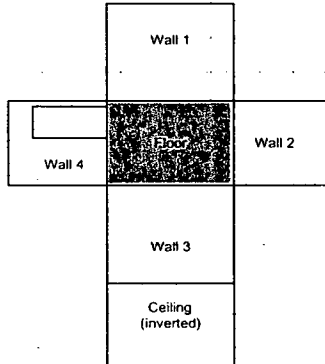
Room 232



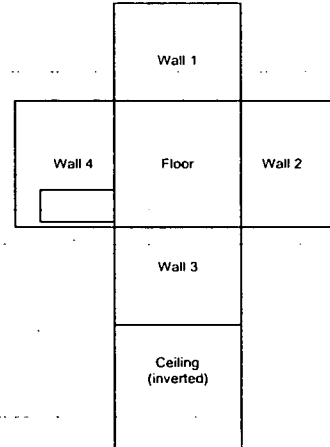
Room 232 A



Coffee Room



Room 232 E

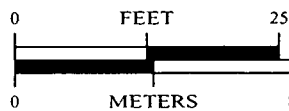


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Environmental Group



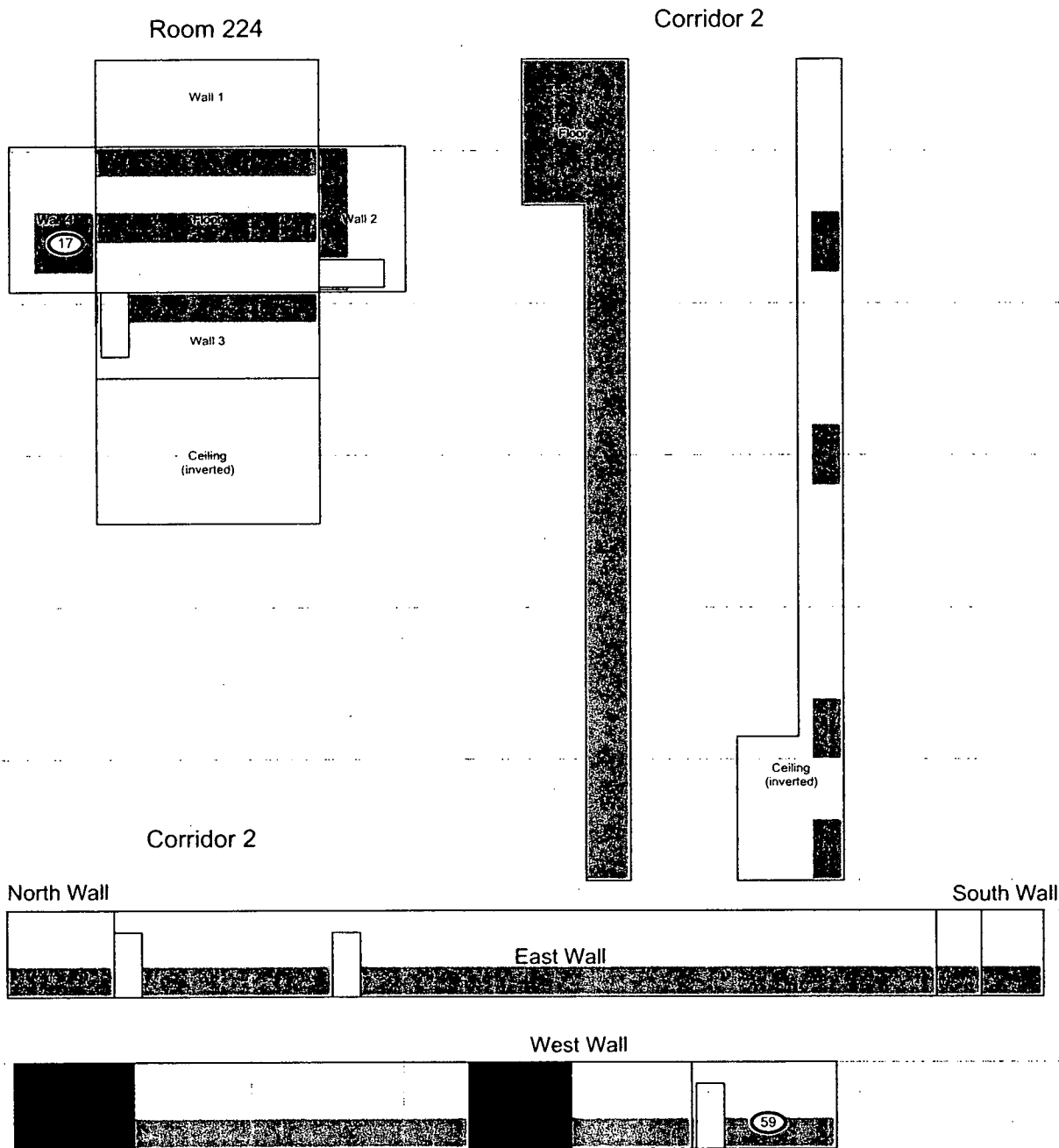
MAP ID: 03-0138460_sht5_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5 Survey Unit: 460504 Classification: 3
 Building: 460
 Survey Unit Description: 460 Interior - 2nd Floor Offices
 Total Area: 11,453 sq. m. Total Floor Area: 4,207 sq. m.

PAGE 6 OF 22



Scan Area

SURVEY MAP LEGEND

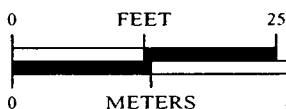
- Smcar & TSA Location
- Smcar, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
 1-5, 8-11



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Consulting and Engineering Group



MAP ID: 03-0138460_sht6_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

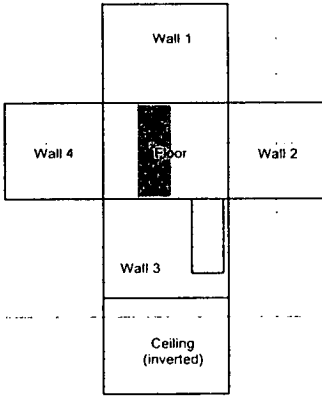
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

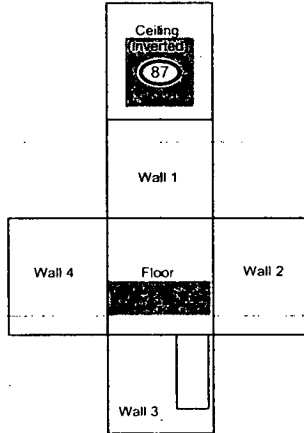
Total Floor Area: 4,207 sq. m.

PAGE 7 OF 22

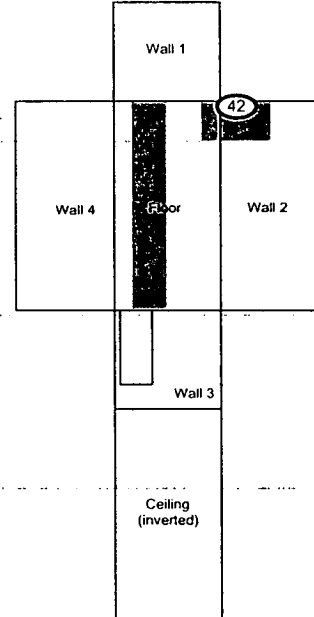
Room 225 A



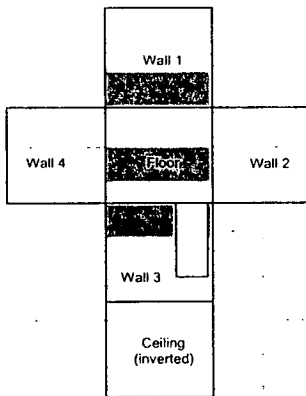
Room 225 B



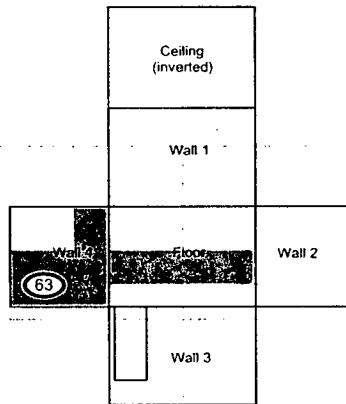
Room 225 C



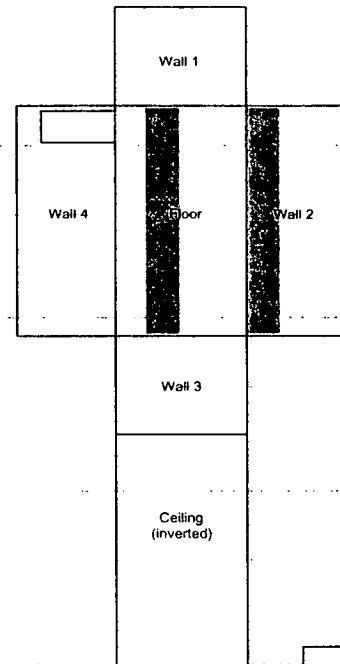
Room 225 D



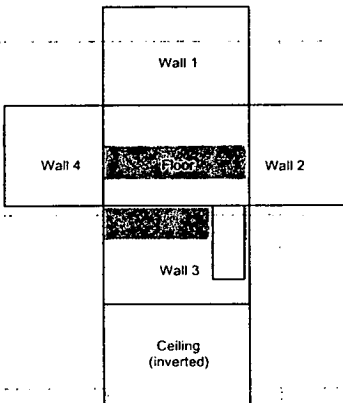
Room 225 E



Room 231



Room 225 F

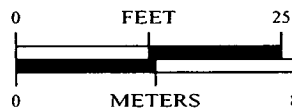


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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1 inch = 18 feet 1 grid sq. = 1 sq. m.

Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138460_sht7_SC

Mar. 24, 2005

RLC FOR 460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

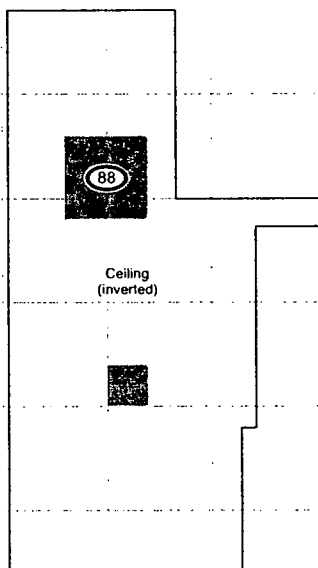
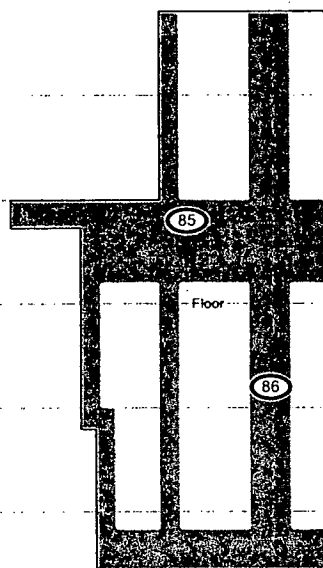
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

Total Floor Area: 4,207 sq. m.

PAGE 8 OF 22

Room 225



North Wall



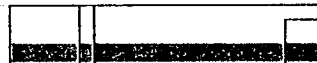
East Wall



West Wall



South Wall



Scan Area

SURVEY MAP LEGEND

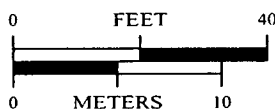
- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11



1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138460_sht8_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

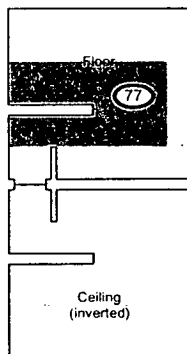
Survey Unit Description: 460 Interior- 2nd Floor Offices

Total Area: 11,453 sq. m.

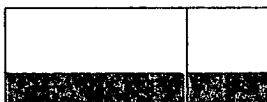
Total Floor Area: 4,207 sq. m.

PAGE 9 OF 22

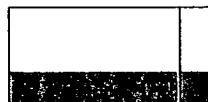
Room 218



North Wall



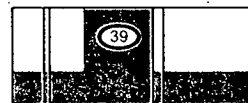
East Wall



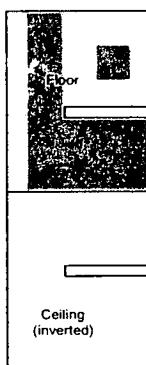
South Wall



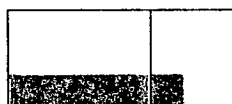
West Wall



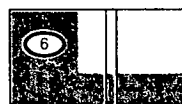
Room 216



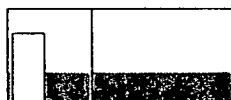
North Wall



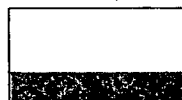
East Wall



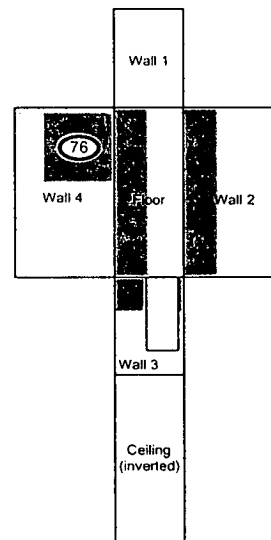
South Wall



West Wall



Room 217



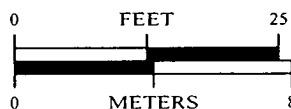
SURVEY MAP LEGEND

- Smcar & TSA Location
- Smcar, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11

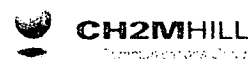


1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



MAP ID: 03-0138\460_sht9_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

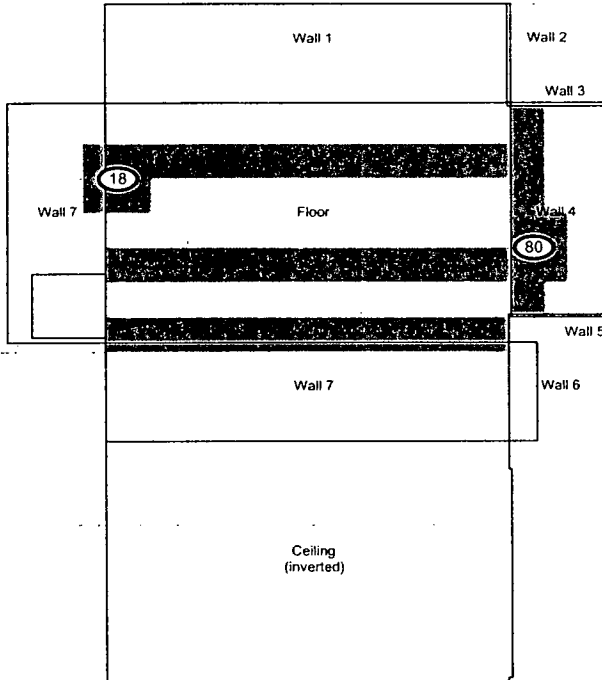
Survey Unit Description: 460 Interior - 2nd Floor Interior

Total Area: 11,453 sq. m.

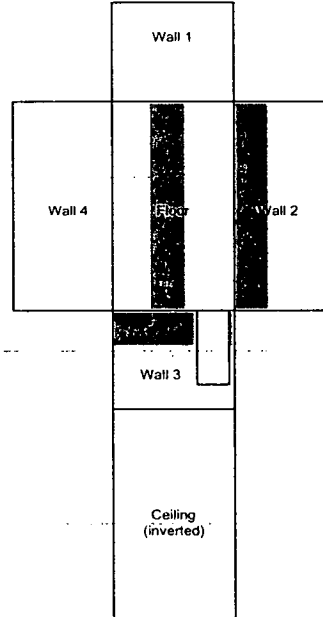
Total Floor Area: 4,207 sq. m.

PAGE 10 OF 22

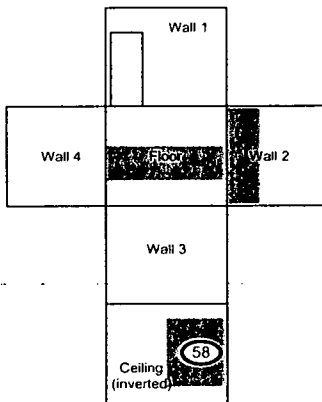
Room 219



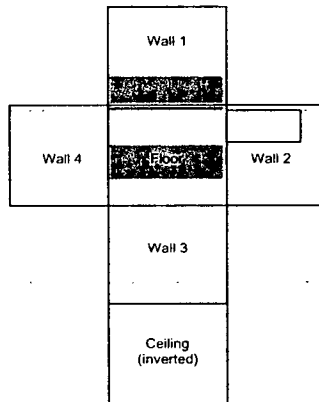
Room 215



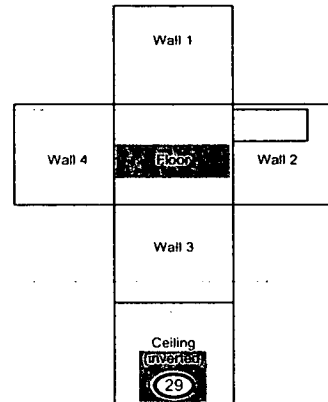
Room 227 T



Room 227 L



Room 227 K

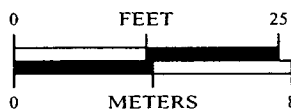


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Consulting Group



MAP ID: 03-0138460_sht10_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

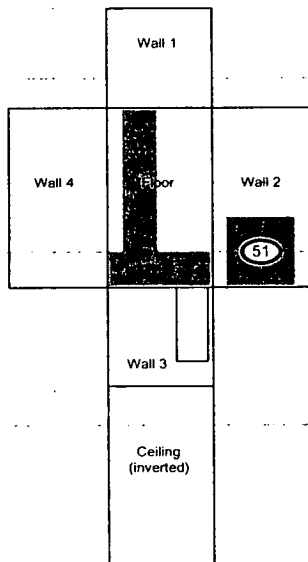
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

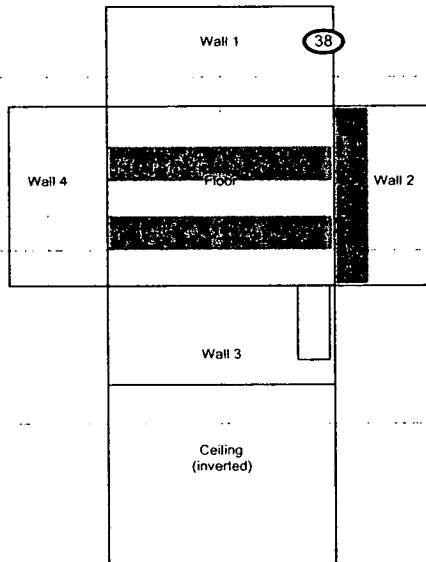
Total Floor Area: 4,207 sq. m.

PAGE 11 OF 22

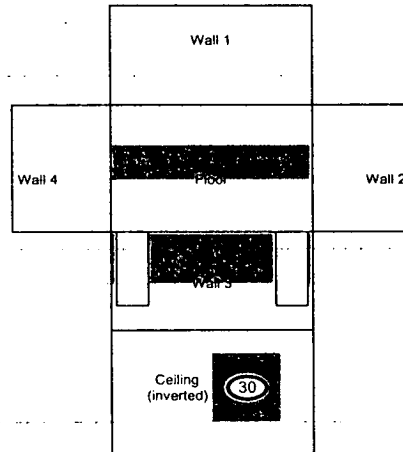
Room 227 A



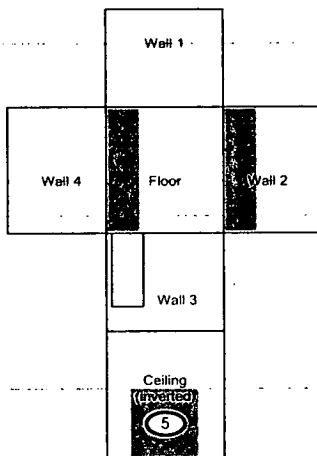
Room 227 B



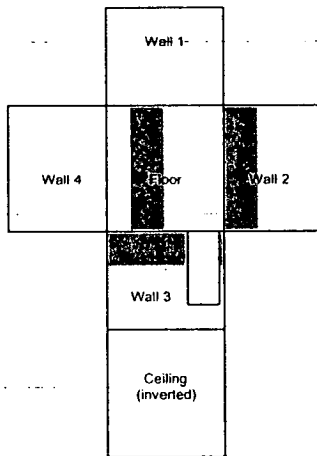
Room 227 C



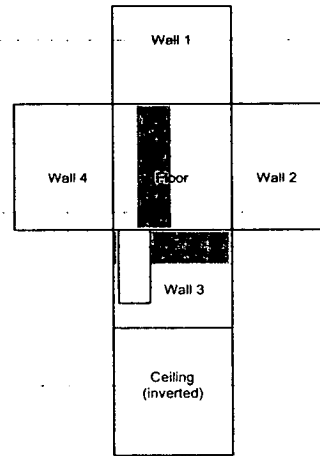
Room 227 E



Room 227 F



Room 227 G

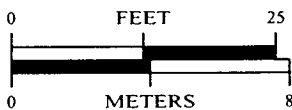


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138\460_sht11_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

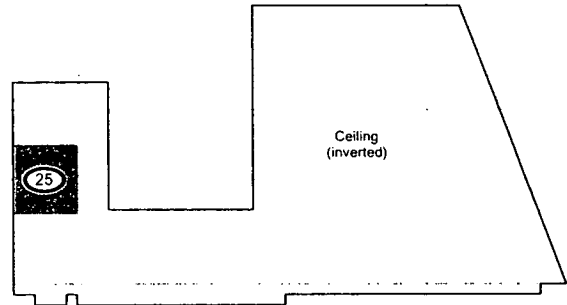
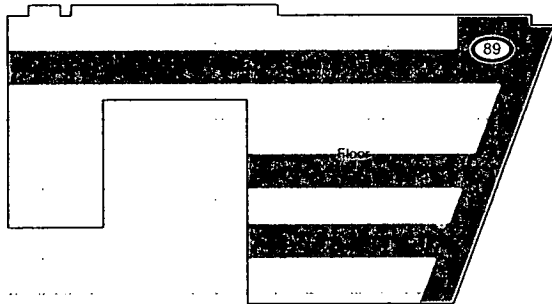
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

Total Floor Area: 4,207 sq. m.

PAGE 12 OF 22

Corridor 3



North Wall



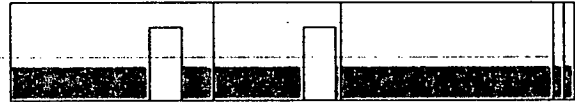
East Wall



West Wall







South Wall



Scan Area

SURVEY MAP LEGEND

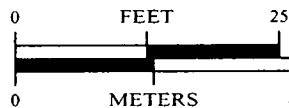
-  Smear & TSA Location
-  Smear, TSA & Sample Location
-  Open/Inaccessible Area
-  Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138\460_sht12_SC

Mar. 24, 2005

Survey Area: 5 Survey Unit: 460504 Classification: 3
Building: 460
Survey Unit Description: 460 Interior - 2nd Floor Offices
Total Area: 11,453 sq. m. Total Floor Area: 4,207 sq. m.

The diagram shows a cross-shaped layout with a central square labeled "Floor". Four rectangular areas, representing walls, are positioned around the central floor:

- Wall 1** is at the top.
- Wall 2** is on the right.
- Wall 3** is at the bottom.
- Wall 4** is on the left.

Each wall contains a black rectangular area representing a window. Wall 4 has a single large window. Wall 1, Wall 2, and Wall 3 each have two smaller windows arranged vertically. The central floor area is white.

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

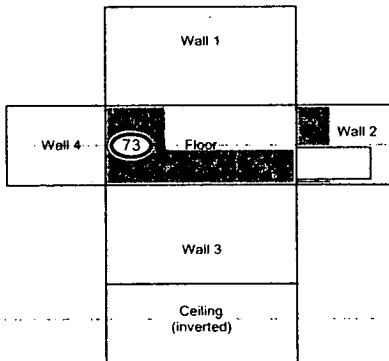
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

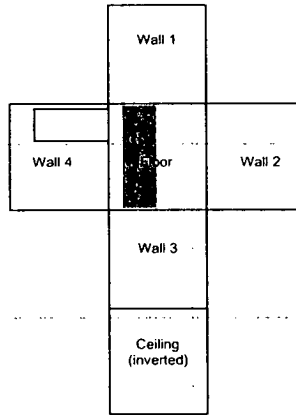
Total Floor Area: 4,207 sq. m.

PAGE 14 OF 22

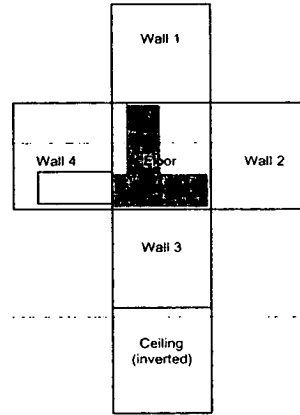
Room 208



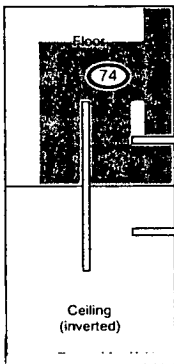
Room 227 H



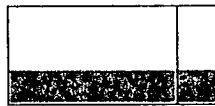
Room 227 J



Room 207



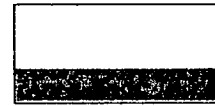
North Wall



East Wall



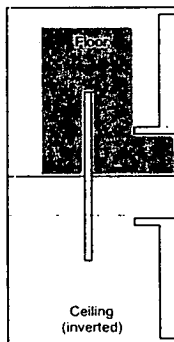
South Wall



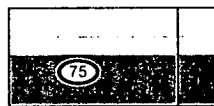
West Wall



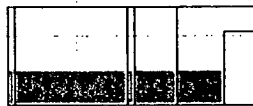
Room 206



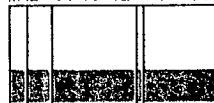
North Wall



East Wall



South Wall



West Wall



Scan Area

SURVEY MAP LEGEND

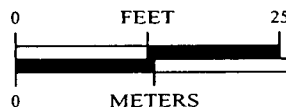
- Smear & TSA Location
- ◆ Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Consultants Group



MAP ID: 03-0138460_sht14_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

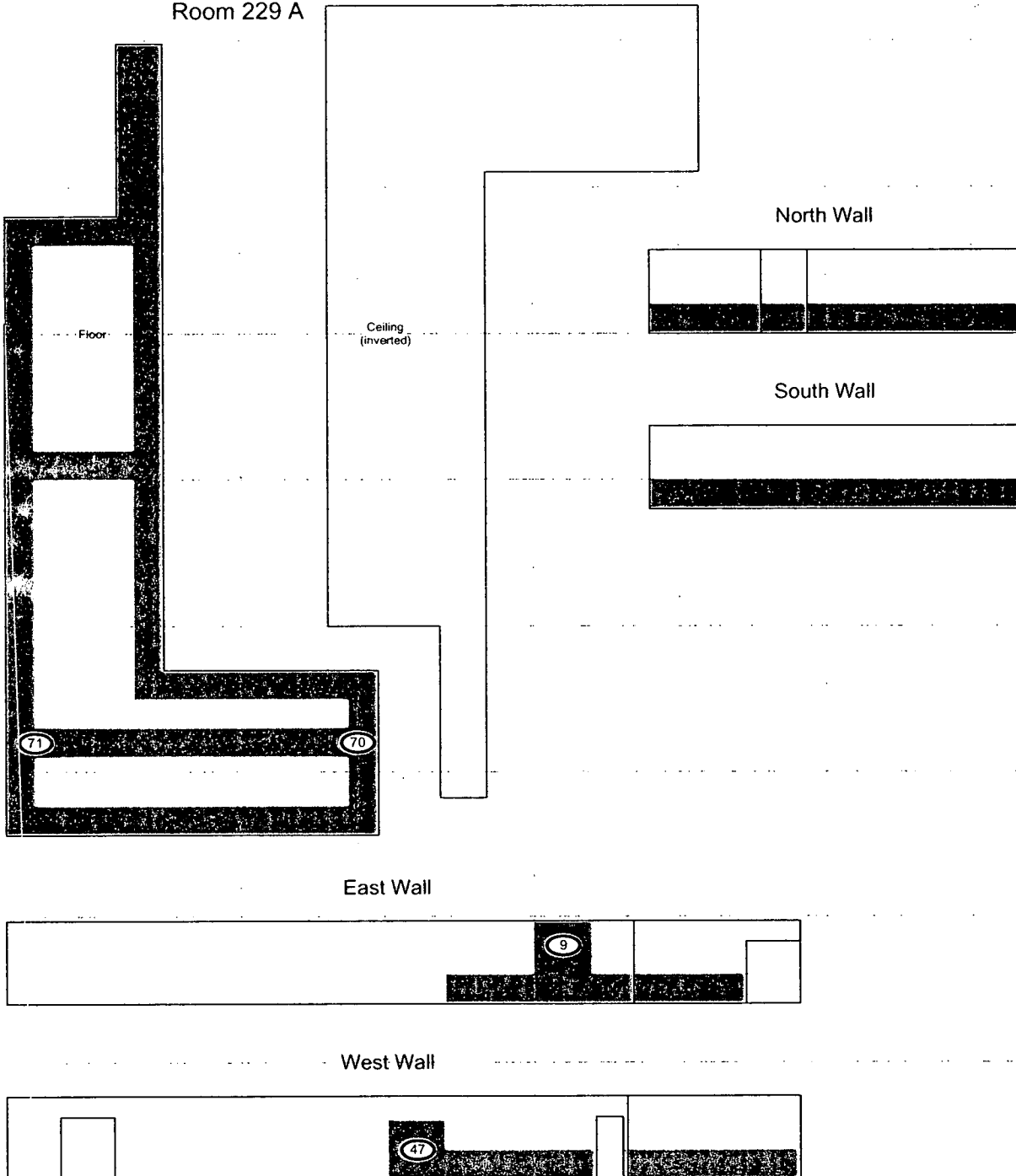
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

Total Floor Area: 4,207 sq. m.

PAGE 15 OF 22

Room 229 A



Scan Area

SURVEY MAP LEGEND

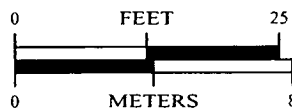
- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138460_sht15_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

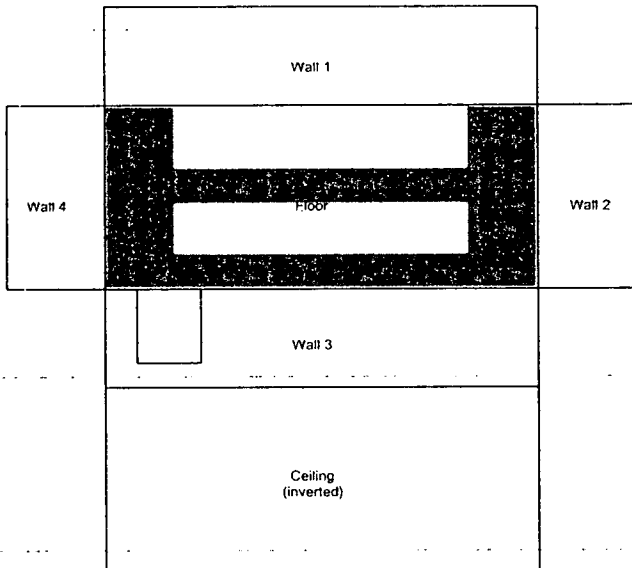
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

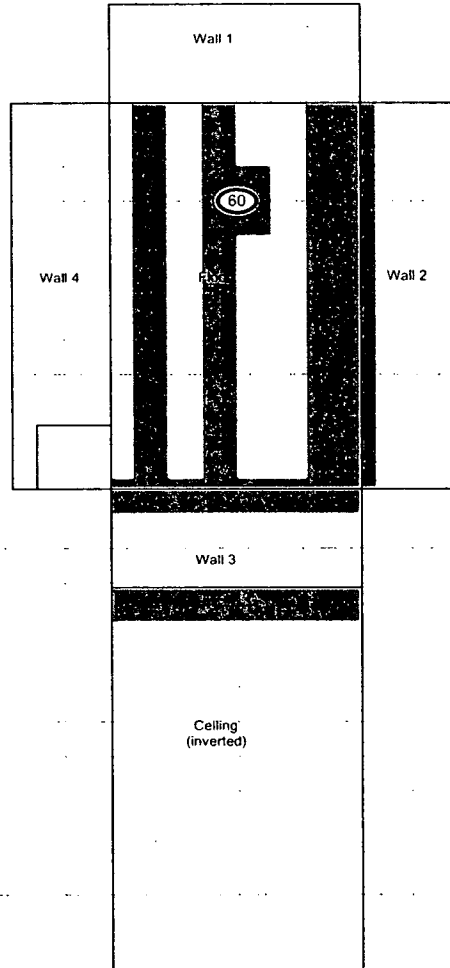
Total Floor Area: 4,207 sq. m.

PAGE 16 OF 22

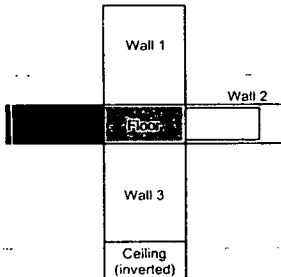
Maintenance Room



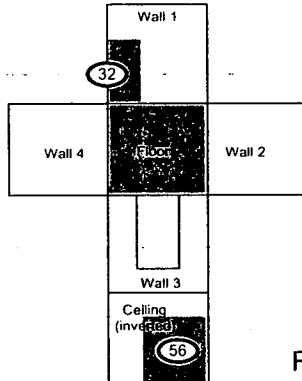
Room 229 B



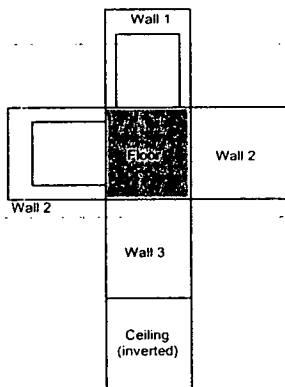
Room Entryway



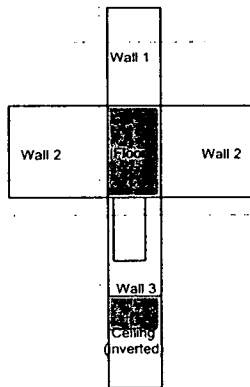
Room Service Elevator



Room 205



Room 204

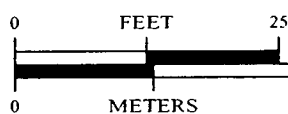


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138460_sht16_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

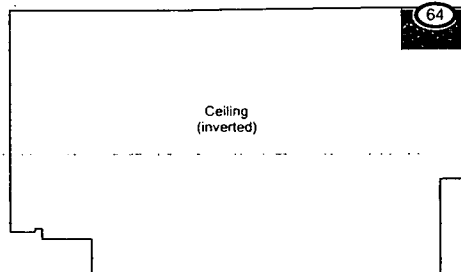
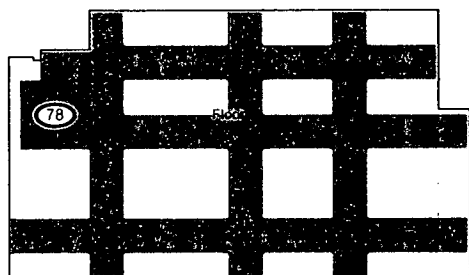
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

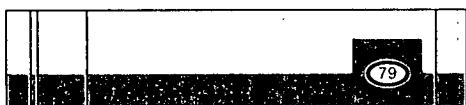
Total Floor Area: 4,207 sq. m.

PAGE 17 OF 22

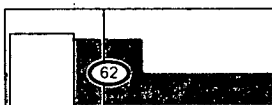
Room 202



North Wall



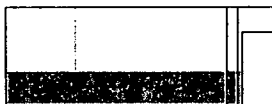
East Wall



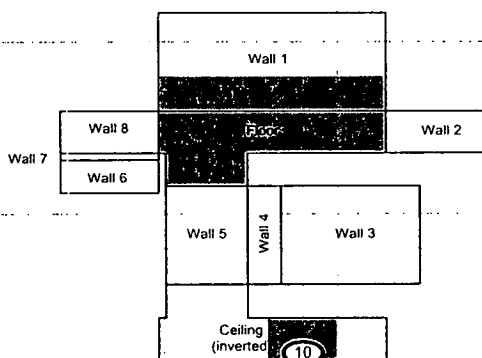
South Wall



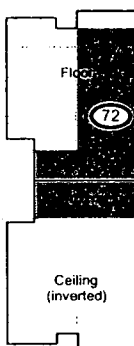
West Wall



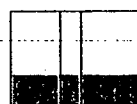
Corridor 4



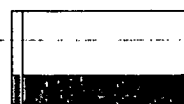
Room 203



North Wall



East Wall



South Wall



West Wall

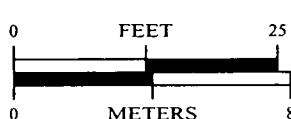


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138460_sht17_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

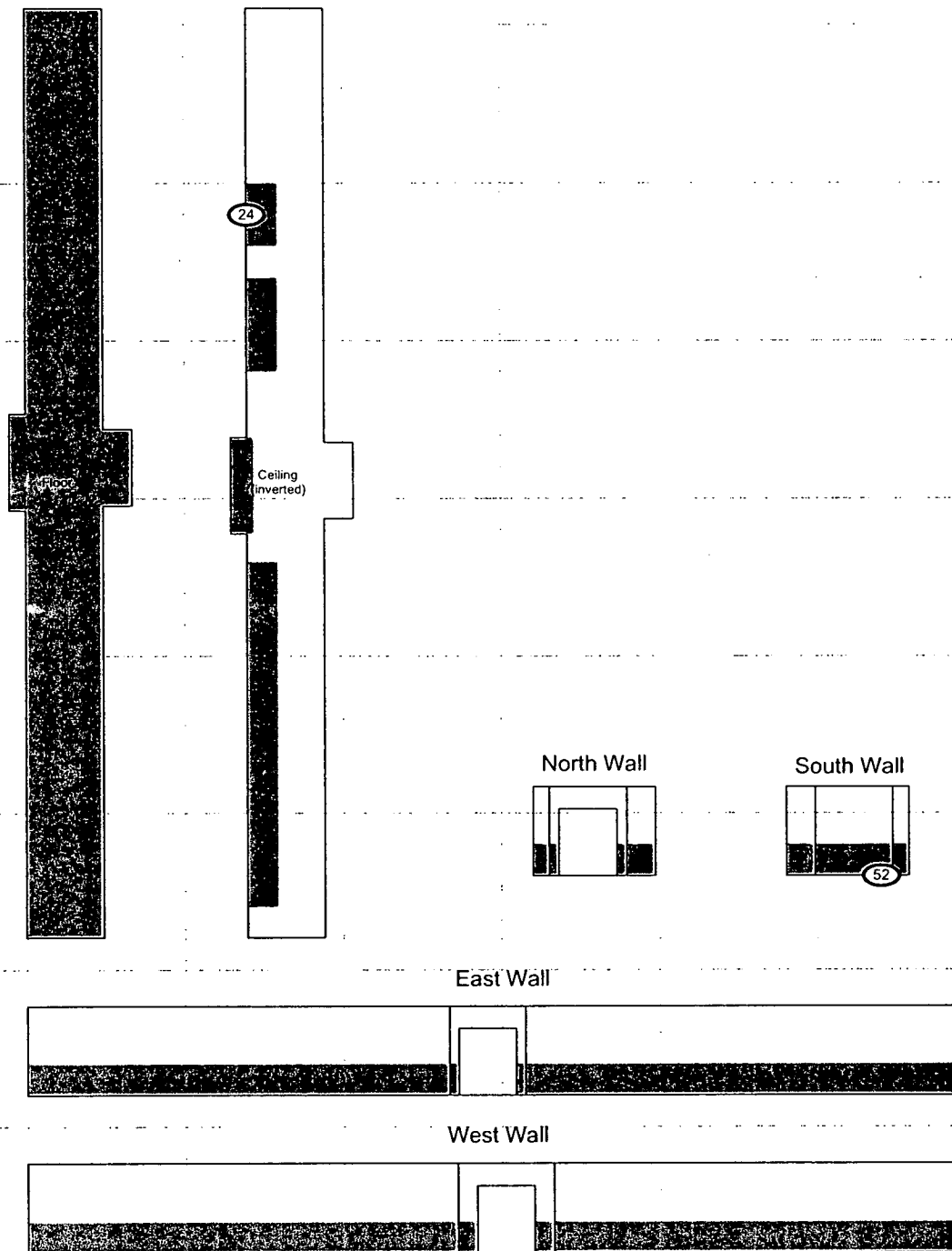
Survey Unit Description: 460 Interior - 2nd Floor Interior

Total Area: 11,453 sq. m.

Total Floor Area: 4,207 sq. m.

PAGE 18 OF 22

Room Corridor 1

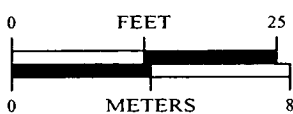


- SURVEY MAP LEGEND**
- Smear & TSA Location
 - Smear, TSA & Sample Location
 - Open/Inaccessible Area
 - Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1-5, 8-11



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group



MAP ID: 03-0138460_sht18_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

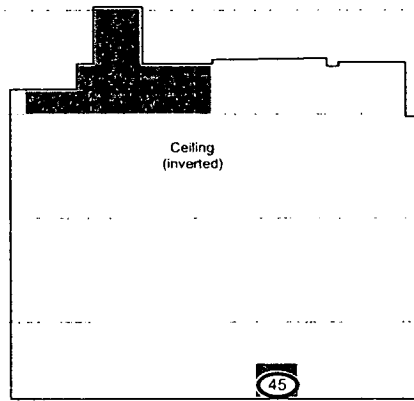
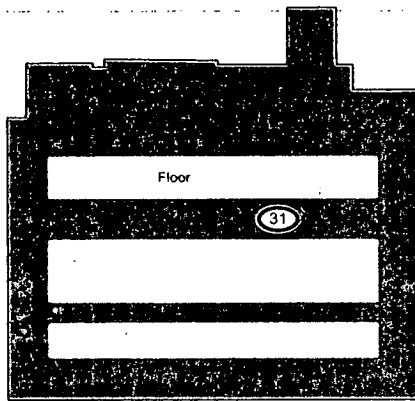
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

Total Floor Area: 4,207 sq. m.

PAGE 19 OF 22

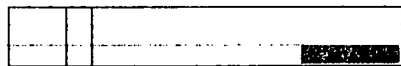
Room 201



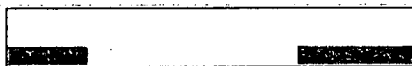
North Wall



East Wall



South Wall



West Wall



Scan Area

SURVEY MAP LEGEND

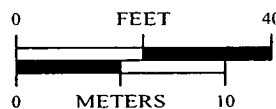
- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11



1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-01381460_sht19_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

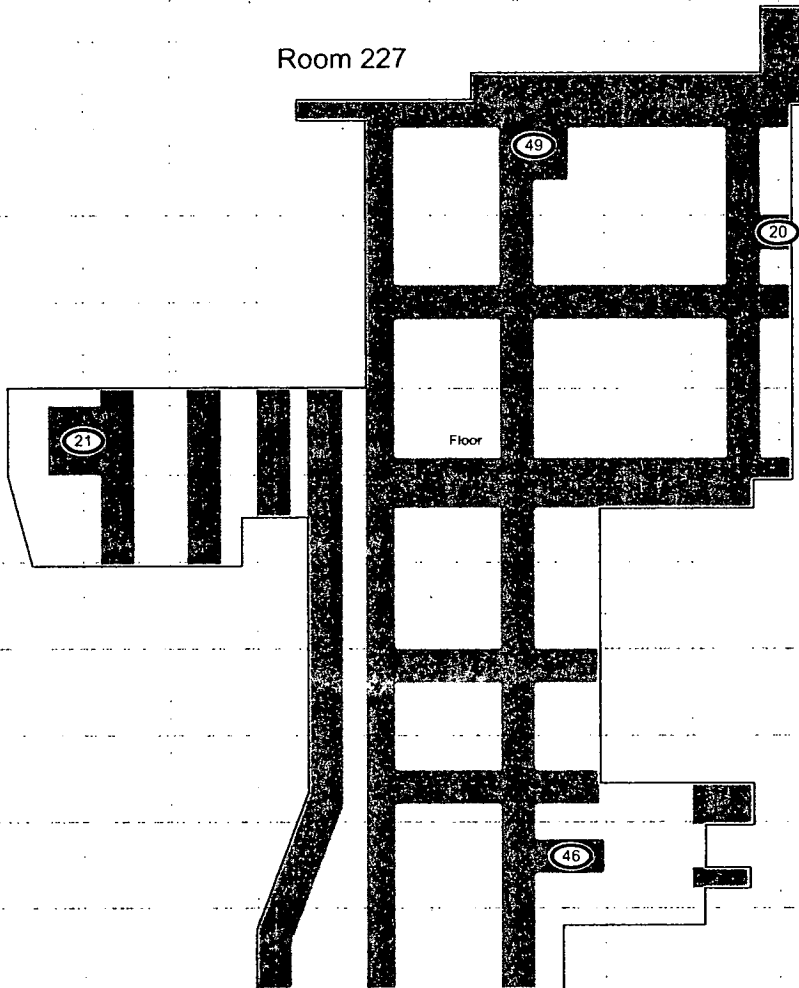
Survey Unit Description: 460 Interior -2nd Floor Offices

Total Area: 11,453 sq. m.

Total Floor Area: 4,207 sq. m.

PAGE 20 OF 22

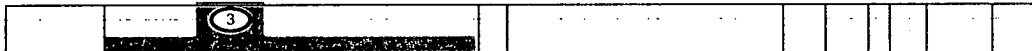
Room 227



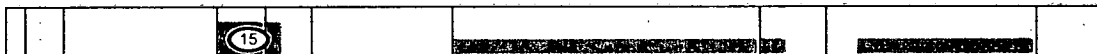
North Wall



East Wall



South Wall



West Wall



Scan Area

SURVEY MAP LEGEND

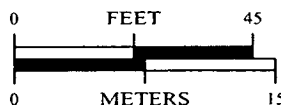
- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11



1 inch = 36 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-01381460_sht20_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

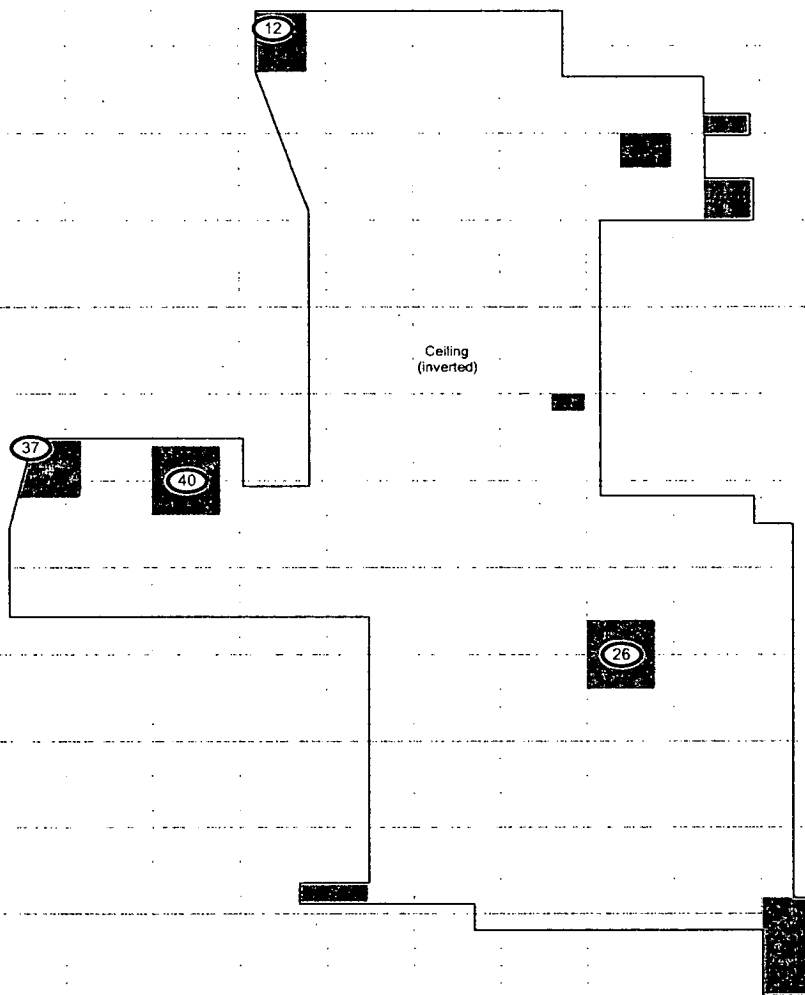
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

Total Floor Area: 4,207 sq. m.

PAGE 21 OF 22

Room 227 (Ceiling Inverted)



Scan Area

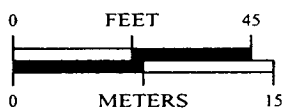
SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11



1 inch = 36 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



MAP ID: 03-0138\460_sht21_SC

Mar. 24, 2005

RLC FOR B460

Survey Area: 5

Survey Unit: 460504

Classification: 3

Building: 460

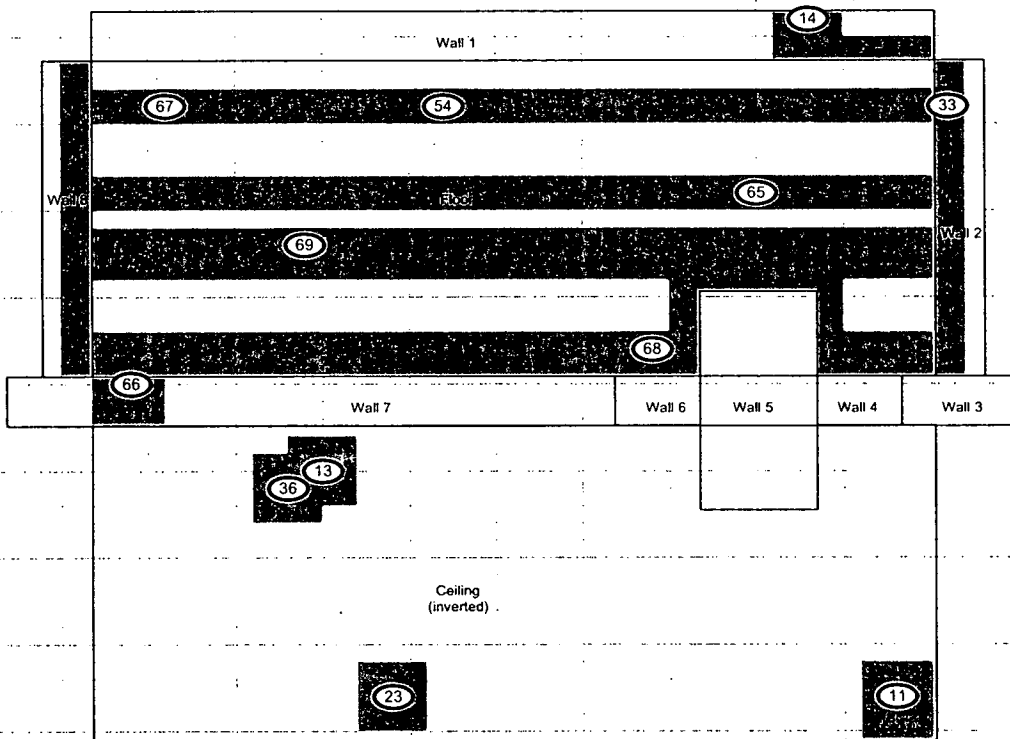
Survey Unit Description: 460 Interior - 2nd Floor Offices

Total Area: 11,453 sq. m.

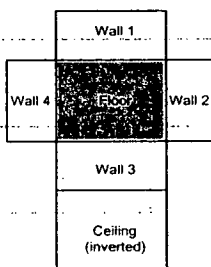
Total Floor Area: 4,207 sq. m.

PAGE 22 OF 22

Room 226



Room 226A



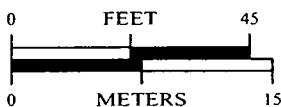
Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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N



1 inch = 36 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



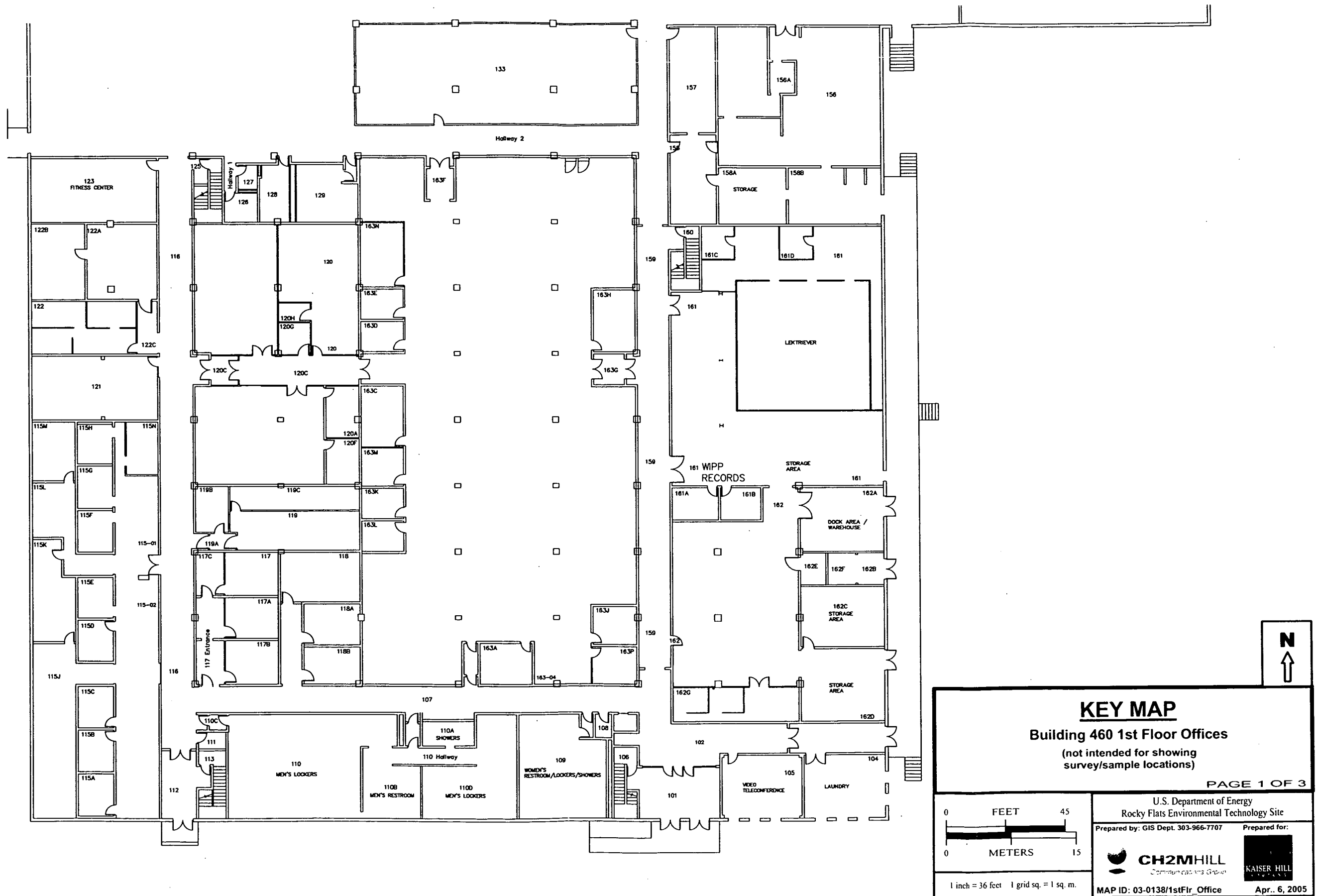
MAP ID: 03-0138/460_sht22_SC

Mar. 24, 2005

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1-5, 8-11

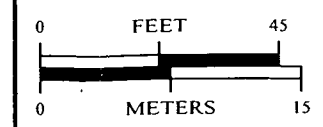
ATTACHMENT D

Chemical Data Summaries and Sample Maps



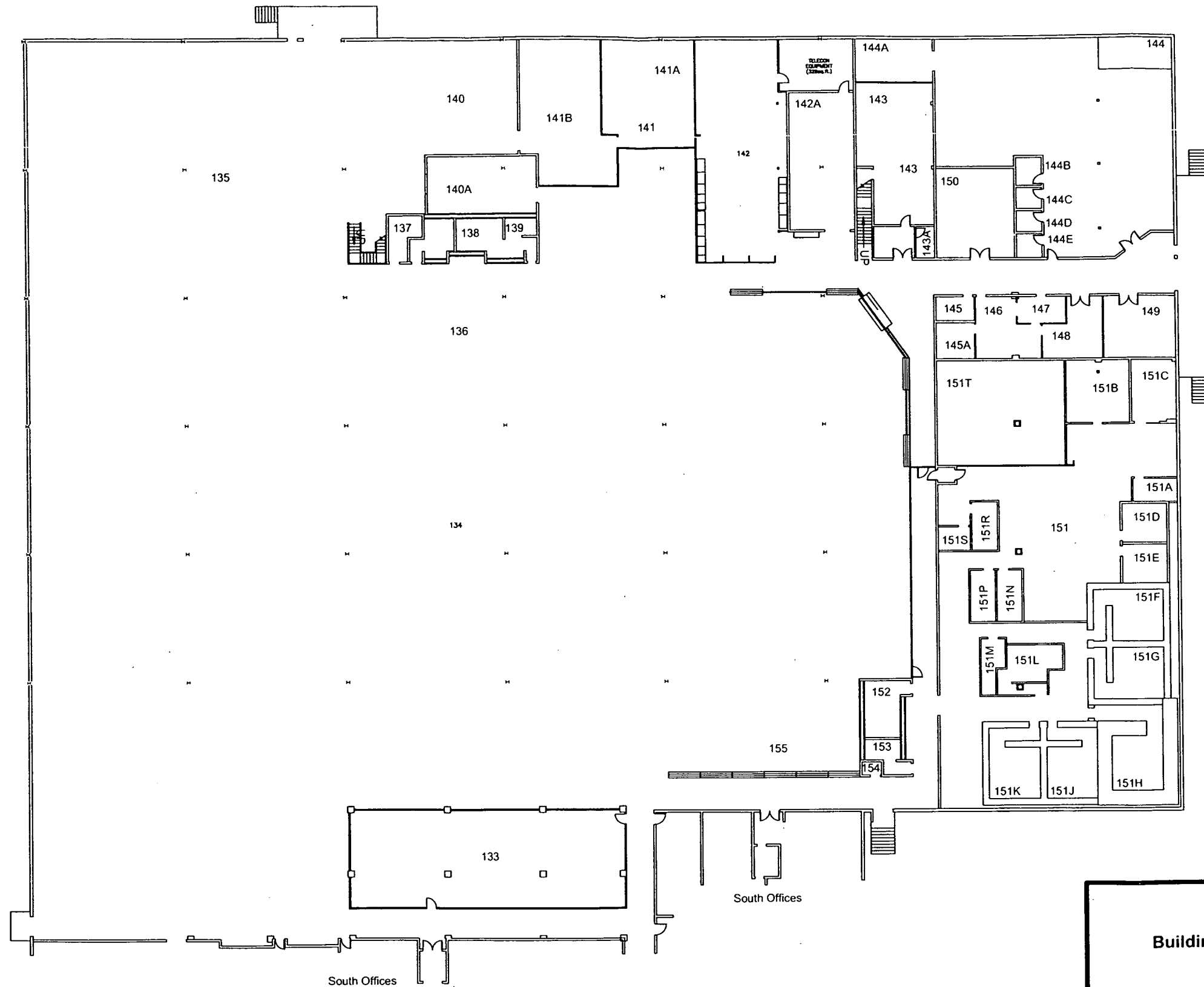
KEY MAP
Building 460 1st Floor Offices
(not intended for showing
survey/sample locations)

PAGE 1 OF 3



1 inch = 36 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: GIS Dept. 303-966-7707 Prepared for:
CH2MHILL
Communications Group
KAISER HILL
MAP ID: 03-0138/1stFlr_Office Apr., 6, 2005



KEY MAP Building 460 North Offices & High Bay (not intended for showing survey/sample locations)		PAGE 3 OF 3
U.S. Department of Energy Rocky Flats Environmental Technology Site Prepared by: GIS Dept. 303-966-7707		Prepared for:
1 inch = 36 feet 1 grid sq. = 1 sq. m.		
MAP ID: 03-0138/460HB_KP		Apr. 6, 2005

Asbestos Data Summary

Building 460 – RIN 04Z0218

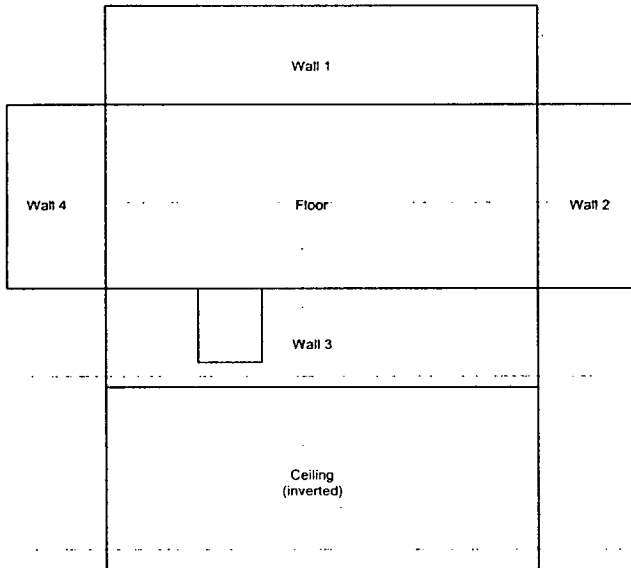
Sample Number	Map Location Point	Room	Material Sampled & Location	Analytical Results
460-10282003-9-501	1	Room 116 - 1 st Floor north/south hall	Paint and plaster over cinderblock wall	Non-Detect
460-10282003-9-502	2	Corridor 2 – Floor, stairwell, east side	Paint and plaster over cinderblock wall	Non-Detect
460-10283002-9-503	3	Room 205 - 2 nd Floor north/south hall	Paint and plaster over cinderblock wall	Non-Detect

CHEMICAL SAMPLE MAP

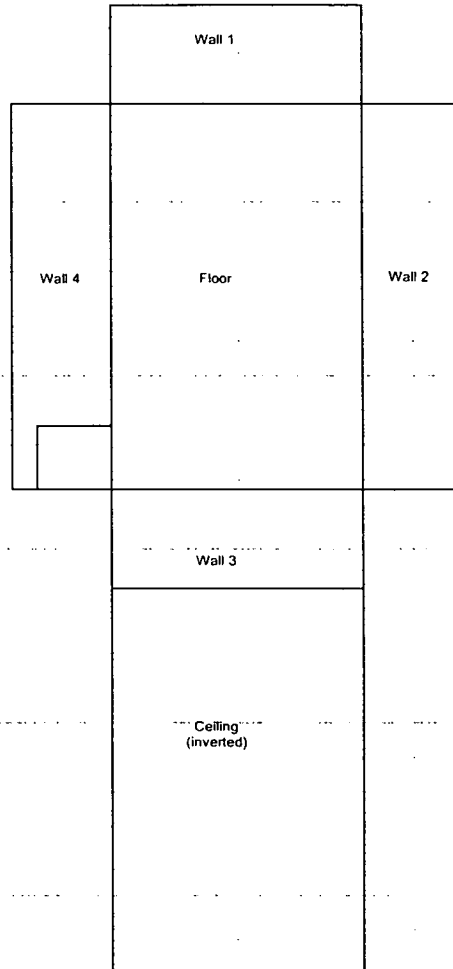
Building 460
Asbestos

PAGE 1 OF 3

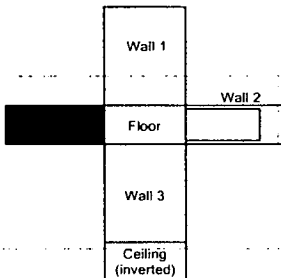
Maintenance Room



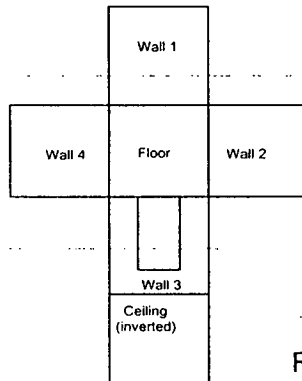
Room 229 B



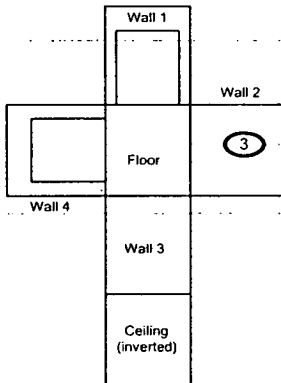
Room Entryway



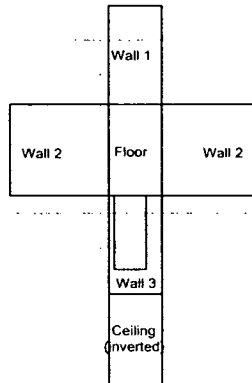
Room Service Elevator



Room 205



Room 204

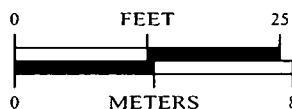


SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location

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- Open/Inaccessible Area
- Area in Another Survey Unit



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Communications Group



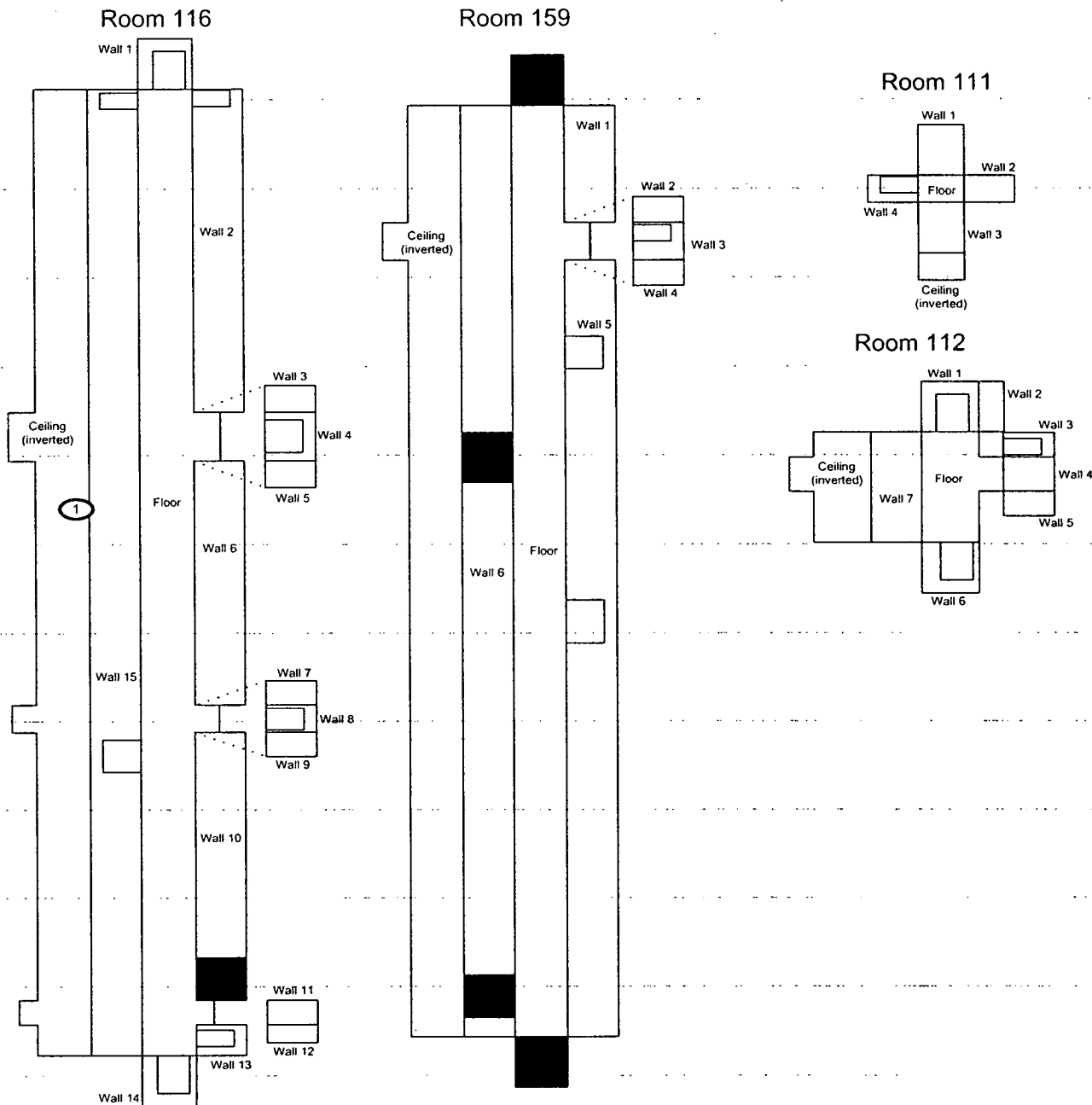
MAP ID: 03-01381460_s1-ASB

Mar. 29, 2005

CHEMICAL SAMPLE MAP

Building 460 1st Floor
Asbestos

PAGE 2 OF 3

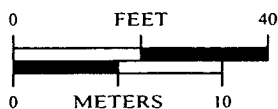


SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location

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- Area in Another Survey Unit



1 inch = 30 feet 1 grid sq. = 1 sq. m.

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Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



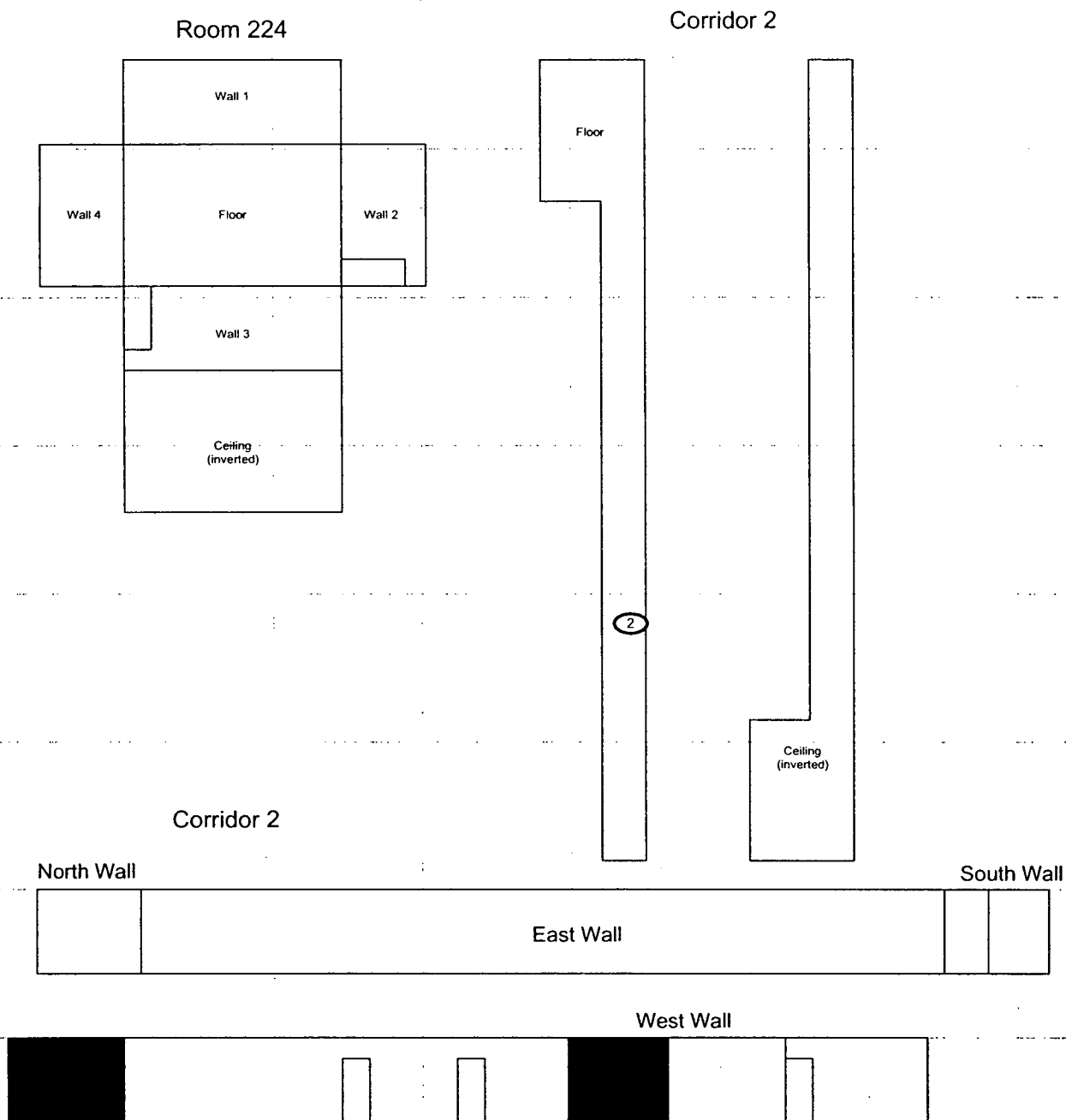
MAP ID: 03-0138/460_s2-ASB

Mar. 29, 2005

CHEMICAL SAMPLE MAP

Building 460
Asbestos

PAGE 3 OF 3



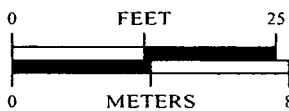
SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location

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- Open/Inaccessible Area
- Area in Another Survey Unit



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
Consulting Group



MAP ID: 03-0138/460_s3-ASB

Mar. 29, 2005

Beryllium Data Summary
Building 460 – RIN 05D0695

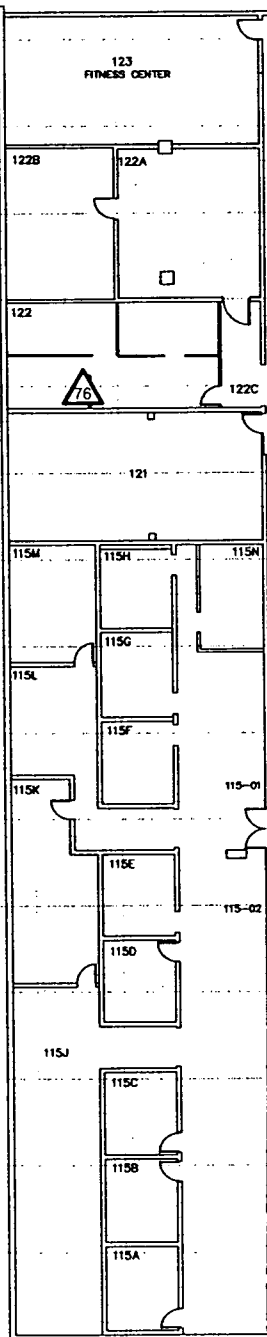
Sample Number	Map Survey Point Location	Sample Location	Result (ug/100 cm ²)
460-030720005-00-001	1	Floor	< 0.1
460-030720005-00-002	2	Overhead ventilation duct	< 0.1
460-030720005-00-003	3	Floor	< 0.1
460-030720005-00-004	4	Overhead cross beam	< 0.1
460-030720005-00-005	5	Overhead , top of cross beam	< 0.1
460-030720005-00-006	6	Overhead , top of cross beam	< 0.1
460-030720005-00-007	7	Floor	< 0.1
460-030720005-00-008	8	Floor	< 0.1
460-030720005-00-009	9	Top of condensate line	< 0.1
460-030720005-00-010	10	Overhead , top of cross beam	< 0.1
460-030720005-00-011	11	Top of pipe at ceiling	< 0.1
460-030720005-00-012	12	Top of supply duct, overhead	< 0.1
460-030720005-00-013	13	Floor	< 0.1
460-030720005-00-014	14	Fan louvers, overhead	< 0.1
460-030720005-00-015	15	Top of light fixture, overhead	< 0.1
460-030720005-00-016	16	Top of fire water line, overhead	< 0.1
460-030720005-00-017	17	Top of exhaust duct, overhead	< 0.1
460-030720005-00-018	18	Floor	< 0.1
460-030720005-00-019	19	Floor	< 0.1
460-030720005-00-020	20	Top of light fixture, overhead	< 0.1
460-030720005-00-021	21	Floor	< 0.1
460-030720005-00-022	22	Top of fire pipe near ceiling	< 0.1
460-030720005-00-023	23	Overhead, top of cross beam	< 0.1
460-030720005-00-024	24	Floor	< 0.1
460-030720005-00-025	25	Floor	< 0.1
460-030720005-00-026	26	Top of duct, overhead	< 0.1
460-030720005-00-027	27	Floor	< 0.1
460-030720005-00-028	28	Floor	< 0.1
460-030720005-00-029	29	Floor	< 0.1
460-030720005-00-030	30	Top of fire pipe, overhead	< 0.1
460-030720005-00-031	31	Ceiling	< 0.1
460-030720005-00-032	32	Floor	< 0.1
460-030720005-00-033	33	Floor	< 0.1
460-030720005-00-034	34	Ventilation louvers, overhead	< 0.1
460-030720005-00-035	35	Floor	< 0.1
460-030720005-00-036	36	Top of pipe, overhead	< 0.1
460-030720005-00-037	37	On supply ventilation ducting, overhead	< 0.1
460-030720005-00-038	38	Floor	< 0.1
460-030720005-00-039	39	Top of pipe near ceiling	< 0.1
460-030720005-00-040	40	Floor	< 0.1
460-030720005-00-041	41	Floor	< 0.1
460-030720005-00-042	42	Top of pipe, overhead	< 0.1
460-030720005-00-043	43	Floor	< 0.1
460-030720005-00-044	44	Top of I-beam, overhead	< 0.1
460-030720005-00-045	45	Top of center beam, overhead	< 0.1
460-030720005-00-046	46	Top of false ceiling	< 0.1

Sample Number	Map Survey Point Location	Sample Location	Result (ug/100 cm ²)
460-030720005-00-047	47	Top of light fixture, overhead	< 0.1
460-030720005-00-048	48	Top of exhaust duct in overhead	< 0.1
460-030720005-00-049	49	Top of false ceiling	< 0.1
460-030720005-00-050	50	Room 149 on ceiling pipe	< 0.1
460-030720005-00-051	51	Top of electrical box	< 0.1
460-030720005-00-052	52	Top of pipe, overhead	< 0.1
460-030720005-00-053	53	Top of pipe, overhead	< 0.1
460-030720005-00-054	54	Floor	< 0.1
460-030720005-00-055	55	In pan under ceiling vent	< 0.1
460-030720005-00-056	56	Ceiling cross beam	< 0.1
460-030720005-00-057	57	Floor	< 0.1
460-030720005-00-058	58	Cross bracket, overhead	< 0.1
460-030720005-00-059	59	Floor	< 0.1
460-030720005-00-060	60	On pipe	< 0.1
460-030720005-00-061	61	On top of ventilation duct, overhead	< 0.1
460-030720005-00-062	62	On top of ventilation duct, overhead	< 0.1
460-030720005-00-063	63	On top of cross beam, overhead	< 0.1
460-030720005-00-064	64	Top of heater	< 0.1
460-030720005-00-065	65	Floor	< 0.1
460-030720005-00-066	66	Floor	< 0.1
460-030720005-00-067	67	On top of light fixture, overhead	< 0.1
460-030720005-00-068	68	On top of cross beam, overhead	< 0.1
460-030720005-00-069	69	On top of ventilation duct, overhead	< 0.1
460-030720005-00-070	70	On ceiling	< 0.1
460-030720005-00-071	71	On top of light fixture, overhead	< 0.1
460-030720005-00-072	72	Top of false ceiling	< 0.1
460-030720005-00-073	73	Top of electrical box	< 0.1
460-030720005-00-074	74	Top of false ceiling	< 0.1
460-030720005-00-075	75	Inside fan	< 0.1
460-030720005-00-076	76	Top of electrical box	< 0.1
460-030720005-00-077	77	Top of electrical box	< 0.1
460-030720005-00-078	78	On ventilation louver, overhead	< 0.1
460-030720005-00-079	79	On ventilation louver, overhead	< 0.1
460-030720005-00-080	80	On ventilation louver, overhead	< 0.1
460-030720005-00-081	81	On ventilation louver, overhead	< 0.1
460-030720005-00-082	82	On ventilation louver, overhead	< 0.1
460-030720005-00-083	83	On ventilation louver, overhead	< 0.1
460-030720005-00-084	84	On top of light fixture, overhead	< 0.1
460-030720005-00-085	85	On top of light fixture, overhead	< 0.1
460-030720005-00-086	86	On ventilation louver, overhead	< 0.1
460-030720005-00-087	87	On ventilation louver, overhead	< 0.1
460-030720005-00-088	88	On ventilation louver, overhead	< 0.1
460-030720005-00-089	89	On ventilation louver, overhead	< 0.1
460-030720005-00-090	90	Top of electrical box	< 0.1
460-030720005-00-101	101	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-102	102	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-103	103	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-104	104	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-105	105	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-106	106	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-107	107	Inside supply ventilation duct, overhead	< 0.1

Sample Number	Map Survey Point Location	Sample Location	Result (ug/100 cm ²)
460-030720005-00-108	108	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-109	109	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-110	110	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-111	111	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-112	112	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-113	113	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-114	114	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-115	115	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-116	116	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-117	117	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-118	118	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-119	119	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-120	120	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-121	121	Inside supply ventilation duct, overhead	< 0.1
460-030720005-00-122	122	Inside exhaust ventilation duct, overhead	< 0.1
460-030720005-00-123	123	Inside exhaust ventilation duct, overhead	< 0.1
460-030720005-00-124	124	Inside exhaust ventilation duct, overhead	< 0.1
460-030720005-00-125	125	Inside exhaust ventilation duct, overhead	< 0.1
460-030720005-00-126	126	Inside exhaust ventilation duct, overhead	< 0.1
460-030720005-00-127	127	Inside exhaust ventilation duct, overhead	< 0.1
460-030720005-00-128	128	Inside 2 nd stage exhaust plenum, Rm 226	< 0.1
460-030720005-00-129	129	Inside 1 st stage exhaust plenum, Rm 226	< 0.1
460-030720005-00-130	130	Inside exhaust ventilation duct, overhead, Rm 226	< 0.1
460-030720005-00-132	132	Inside supply ventilation duct, overhead, Rm 226	< 0.1
460-030720005-00-133	133	Inside fume scrubber, Room 226	< 0.1
460-030720005-00-134	134	Auxiliary Zone 3 Ventilation Unit, Rm 226	< 0.1
460-030720005-00-135	135	Top of IDEC #6 Ventilation Unit, Rm 226	< 0.1
460-030720005-00-136	136	Inside IDEC #4 Ventilation Unit, Rm 226	< 0.1

Footnotes:

1. Samples 1-75 were randomly generated. Samples 76-90 and 101-136 are biased sample locations.
2. Samples 101-136 were collected inside the supply and exhaust ventilation systems.
3. Sample numbers 91-100 were not used.
4. Sample number 460-030720005-00-131 was a QC blank.



SURVEY MAP LEGEND

- ⊕ Asbestos Sample Location
- △ Beryllium Sample Location
- ⊞ Lead Sample Location
- ⬠ RCRA/CERCLA Sample Location
- ⊙ PCB Sample Location

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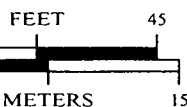


- Open/Inaccessible Area
- ▨ Area in Another Survey Unit

CHEMICAL SAMPLE MAP

Building 460
1st Floor Offices

PAGE 1 OF 3



= 36 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:

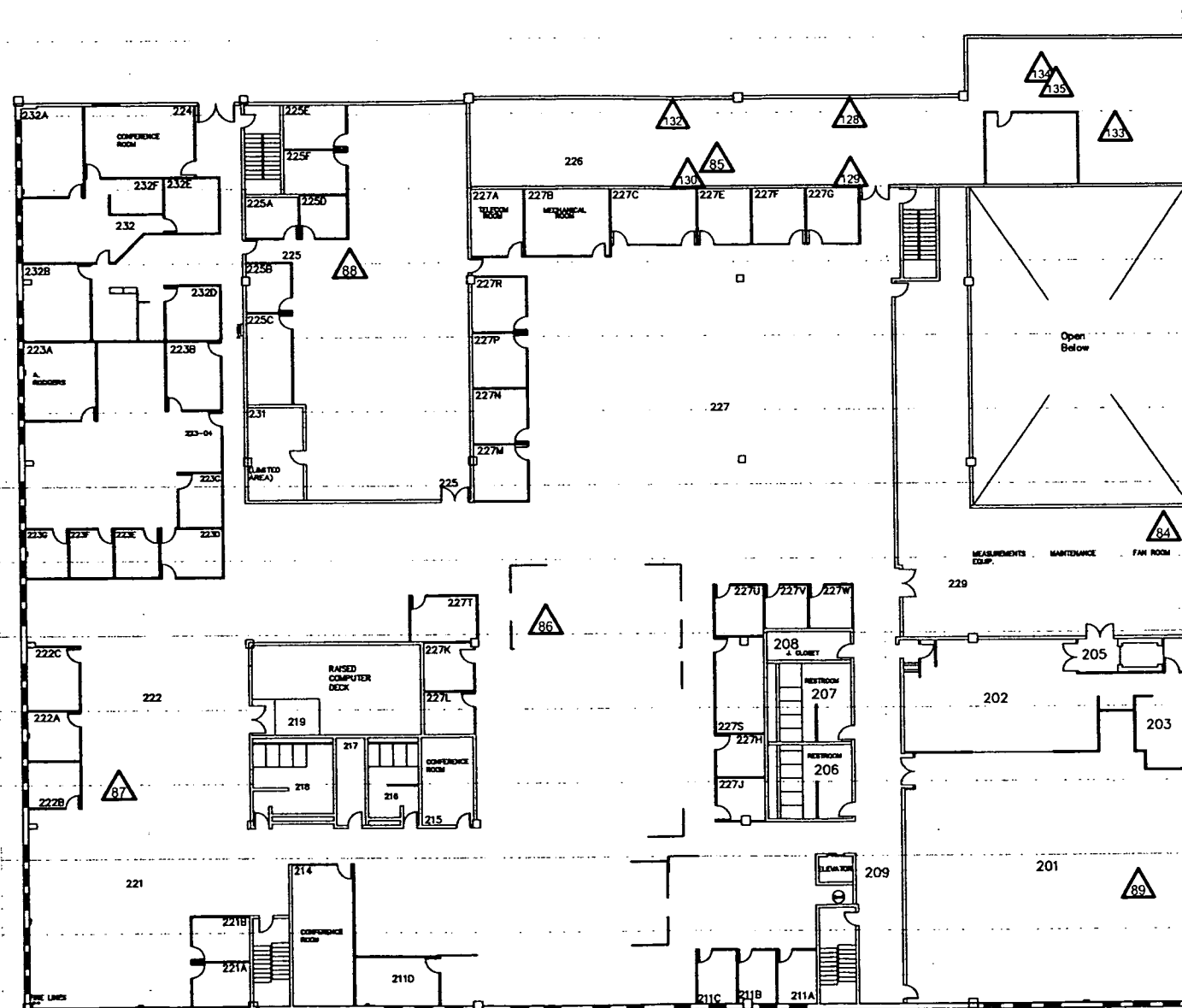


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MAP ID: 03-0138/1stFlr_Off_Be

Mar. 28, 2005

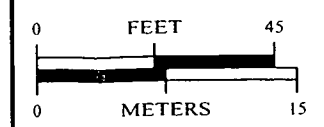


SURVEY MAP LEGEND (circle with cross) Asbestos Sample Location (triangle with cross) Beryllium Sample Location (square with cross) Lead Sample Location (diamond with cross) RCRA/CERCLA Sample Location (star) PCB Sample Location (black square) Open/Inaccessible Area (white square) Area in Another Survey Unit		Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.	N
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CHEMICAL SAMPLE MAP

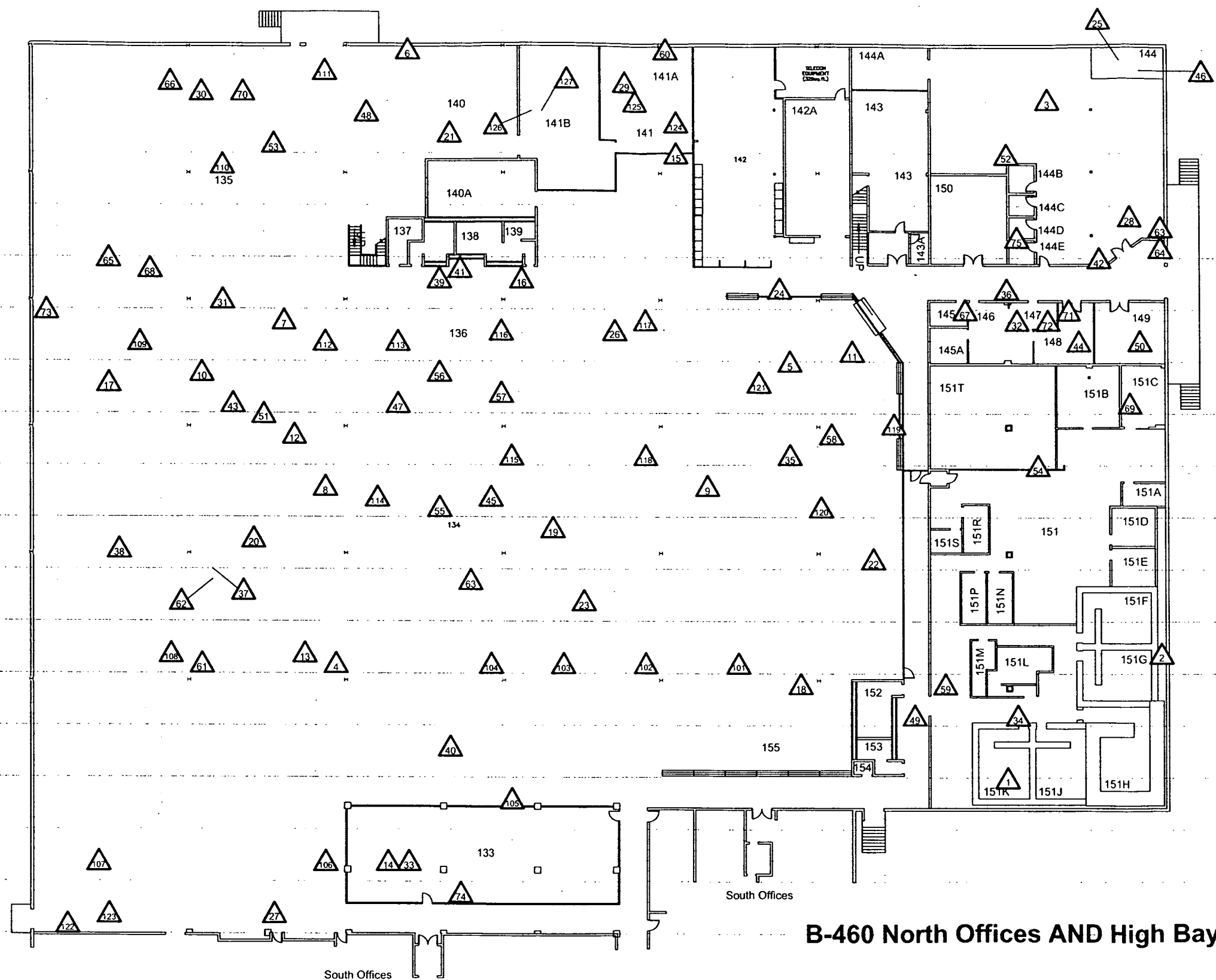
Building 460
2nd Floor Offices

PAGE 2 OF 3



1 inch = 36 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy Rocky Flats Environmental Technology Site	
Prepared by: GIS Dept. 303-966-7707	Prepared for:
MAP ID: 03-0138/2ndFlr_Off_Be	Mar. 28, 2005



CHEMICAL SAMPLE MAP **Building 460 North Offices & High Bay** **Beryllium**

<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Asbestos Sample Location Beryllium Sample Location Lead Sample Location RCRA/CERCLA Sample Location PCB Sample Location 		<p>Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p>	<p>N</p> <p>↑</p>	<p>FEET</p> <p>0 45</p> <p>METERS</p> <p>0 15</p>	<p>U.S. Department of Energy</p> <p>Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIS Dept. 303-966-7707</p> <p>Prepared for:</p> <p>CH2MHILL</p> <p>Communications Group</p> <p>KAISER HILL</p> <p>MAP ID: 03-01381Chem460HB_Be Mar. 28, 2005</p>
<p>Open/Inaccessible Area</p> <p>Area in Another Survey Unit</p>		<p>1 inch = 36 feet 1 grid sq. = 1 sq. m.</p>			

STOLLER RFETS		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				COC: 05Z0992#001 05Z0992#001		Page 1 of 1			
Sample(s) M. Newbury / B. Santiago		(time/date)		Contact/Requester PODOLSKY, STEWART / MYERS, KIM		Telephone No. 7624 / 7106					
RIN 05Z0992		Sampling Origin B460		Purchase Order/Charge Code							
Project Title B460 CONCRETE CORES		Logbook No. 99 Step Van		Ice Chest No.		Temp. N/A 78					
To (Lab) Severn-Trent Denver		Method of Shipment Hand Delivery		Bill of Lading/Air Bill No. N/A							
Protocol SF ASI4-SOP-001		Related COC (if any) 002		PRE		050316-R155-002					
POSSIBLE SAMPLE HAZARDS/REMARKS Are acid preserved samples DOT hazardous per 40 CFR Part 136.3 Table II? YES NO Are other known hazardous substances present? YES NO					SCREENING REQUIRED <input type="checkbox"/>		SPECIAL INSTRUCTIONS Hold Time				
Bottle No.	Customer Number	Matrix	Date/Time	Location	Container (size/type)	Sample Analysis [Field-Filtered] LIC (Method Title) [TAT]/[Parameter List]			Preservative; Packing		
05Z0992 -001.001	Tank 4 (fws) Front area	SOLID	3/28/05 0950	B460	1-SAMPLE P/G	MET-A-021 (METALS 6010/6010B) [14dF] (See Item 1)			None; None		
05Z0992 -002.001	Tank 5 (Floor) Front area	SOLID	1025	B460	1-SAMPLE P/G	MET-A-021 (METALS 6010/6010B) [14dF] (See Item 1)			None; None		
05Z0992 -003.001	Floor behind Tank 4+5	SOLID	1045	B460	1-SAMPLE P/G	MET-A-021 (METALS 6010/6010B) [14dF] (See Item 1)			None; None		
Item 1 MET-A-021: ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BERYLLIUM; BORON; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; POTASSIUM; SELENIUM; SILICA; SILVER; SODIUM; STRONTIUM; THALLIUM; TIN; TITANIUM; URANIUM; VANADIUM; ZINC											
Relinquished By:		Date/Time		Received By:		Date/Time		Relinquished By:		Date/Time	
M. Newbury 1450		3/28/05		[Signature] 1450		3/28/05		[Signature] 1450		3/28/05	
Relinquished By:		Date/Time		Received By:		Date/Time		Relinquished By:		Date/Time	
Ref #4 3.29.05		1030		[Signature] 3.29.05		1030		[Signature] 1225		3.29.05	
Relinquished By:		Date/Time		Received By:		Date/Time		Relinquished By:		Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., returned to customer, disposed of per lab procedure, used in analytical process)				Disposed By		Date/Time COC printed: 03/21/05 06:13 (Version: coc_r22.pt)			



Kaiser-Hill LLC

Total Metals Analysis Data Sheet

Lab Name: STL DENVER

Client Sample ID: 05Z0992-001.001

Lot/SDG Number: 05Z0992

Lab WorkOrder: G69AD

Matrix: SOIL

Lab Sample ID: D5C290333-001

% Moisture:

Date/Time Collected: 03/28/05 9:50

Units: MG/KG

Date/Time Received: 03/29/05 12:25

CAS No.	Analyte	Conc.	Q	RL	Dilution Factor	QC Batch ID	Method	Instrument ID	Analysis Date	Analysis Time
7429-90-5	Aluminum	11000		40	1	5088571	6010B	002	4/1/2005	13:39
7440-36-0	Antimony	0.37	U	12	1	5088571	6010B	016	4/1/2005	13:30
7440-38-2	Arsenic	2.9		2.0	1	5088571	6010B	016	4/1/2005	13:30
7440-39-3	Barium	160		20	1	5088571	6010B	016	4/1/2005	13:30
7440-41-7	Beryllium	0.44		0.20	1	5088571	6010B	002	4/1/2005	13:39
7440-42-8	Boron	8.2		1.5	1	5088571	6010B	002	4/1/2005	13:39
7440-43-9	Cadmium	0.039	U	1.0	1	5088571	6010B	016	4/1/2005	13:30
7440-70-2	Calcium	60000		1000	1	5088571	6010B	002	4/1/2005	13:39
7440-47-3	Chromium	58		0.40	1	5088571	6010B	016	4/1/2005	13:30
7440-48-4	Cobalt	74		10	1	5088571	6010B	016	4/1/2005	13:30
7440-50-8	Copper	16		5.0	1	5088571	6010B	016	4/1/2005	13:30
7439-89-6	Iron	14000		20	1	5088571	6010B	002	4/1/2005	13:39
7439-92-1	Lead	190		0.60	1	5088571	6010B	016	4/1/2005	13:30
7439-93-2	Lithium	9.6	B	20	1	5088571	6010B	002	4/1/2005	13:39
7439-95-4	Magnesium	2700		1000	1	5088571	6010B	002	4/1/2005	13:39
7439-96-5	Manganese	240		3.0	1	5088571	6010B	016	4/1/2005	13:30
7439-98-7	Molybdenum	2.7	B	6.0	1	5088571	6010B	016	4/1/2005	13:30
7440-02-0	Nickel	12		8.0	1	5088571	6010B	016	4/1/2005	13:30
7440-09-7	Potassium	3900		1000	1	5088571	6010B	002	4/1/2005	13:39
7782-49-2	Selenium	0.39	U	1.0	1	5088571	6010B	016	4/1/2005	13:30
7631-86-9	Silica as SiO ₂ , Dissolve	570		5.0	1	5088571	6010B	002	4/1/2005	13:39
7440-22-4	Silver	7.5		1.0	1	5088571	6010B	016	4/1/2005	13:30
7440-23-5	Sodium	1100		1000	1	5088571	6010B	002	4/1/2005	13:39
7440-24-6	Strontium	240		40	1	5088571	6010B	016	4/1/2005	13:30
7440-28-0	Thallium	0.67	B	2.0	1	5088571	6010B	016	4/1/2005	13:30
7440-31-5	Tin	2.7	B	40	1	5088571	6010B	016	4/1/2005	13:30
7440-32-6	Titanium	590		0.20	1	5088571	6010B	002	4/1/2005	13:39
11-09-6	Uranium	1.6	U	40	1	5088571	6010B	016	4/1/2005	13:30
7440-62-2	Vanadium	72		8.0	1	5088571	6010B	016	4/1/2005	13:30

Form 1 Analysis Data Sheet Equivalent



Kaiser-Hill LLC

Total Metals Analysis Data Sheet

Lab Name: STL DENVER Client Sample ID: 05Z0992-001.001
Lot/SDG Number: 05Z0992 Lab WorkOrder: G69AD
Matrix: SOIL Lab Sample ID: D5C290333-001
% Moisture: Date/Time Collected: 03/28/05 9:50
Units: MG/KG Date/Time Received: 03/29/05 12:25

CAS No.	Analyte	Conc.	Q	RL	Dilution Factor	QC Batch ID	Method	Instrument ID	Analysis Date	Analysis Time
7440-66-6	Zinc	190		4.0	1	5088571	6010B	002	4/1/2005	13:39

- U Result is less than the instrument detection limit (IDL).
B Estimated result. Result is less than RL and greater than or equal to the IDL.



Kaiser-Hill LLC

Total Metals Analysis Data Sheet

Lab Name: STL DENVER

Client Sample ID: 05Z0992-001.001

Lot/SDG Number: 05Z0992

Lab WorkOrder: G69AD

Matrix: SOIL

Lab Sample ID: D5C290333-001

% Moisture:

Date/Time Collected: 03/28/05 9:50

Units: MG/KG

Date/Time Received: 03/29/05 12:25

CAS No.	Analyte	Conc.	Q	RL	Dilution Factor	QC Batch ID	Method	Instrument ID	Analysis Date	Analysis Time
7439-97-6	Mercury	0.0021	U	0.20	1	5089171	7471A	019	4/4/2005	17:25

U Result is less than the instrument detection limit (IDL).



Kaiser-Hill LLC

Total Metals Analysis Data Sheet

Lab Name:	<u>STL DENVER</u>	Client Sample ID:	<u>05Z0992-002.001</u>
Lot/SDG Number:	<u>05Z0992</u>	Lab WorkOrder:	<u>G69AH</u>
Matrix:	<u>SOIL</u>	Lab Sample ID:	<u>D5C290333-002</u>
% Moisture:		Date/Time Collected:	<u>03/28/05 10:25</u>
Units:	<u>MG/KG</u>	Date/Time Received:	<u>03/29/05 12:25</u>

CAS No.	Analyte	Conc.	Q	RL	Dilution Factor	QC Batch ID	Method	Instrument ID	Analysis Date	Analysis Time
7429-90-5	Aluminum	8800		40	1	5088571	6010B	002	4/1/2005	14:04
7440-36-0	Antimony	0.41	B	12	1	5088571	6010B	016	4/1/2005	13:55
7440-38-2	Arsenic	3.5		2.0	1	5088571	6010B	016	4/1/2005	13:55
7440-39-3	Barium	130		20	1	5088571	6010B	016	4/1/2005	13:55
7440-41-7	Beryllium	0.42		0.20	1	5088571	6010B	002	4/1/2005	14:04
7440-42-8	Boron	12		1.5	1	5088571	6010B	002	4/1/2005	14:04
7440-43-9	Cadmium	0.16	B	1.0	1	5088571	6010B	016	4/1/2005	13:55
7440-70-2	Calcium	100000		1000	1	5088571	6010B	002	4/1/2005	14:04
7440-47-3	Chromium	50		0.40	1	5088571	6010B	016	4/1/2005	13:55
7440-48-4	Cobalt	3.9	B	10	1	5088571	6010B	016	4/1/2005	13:55
7440-50-8	Copper	15		5.0	1	5088571	6010B	016	4/1/2005	13:55
7439-89-6	Iron	8300		20	1	5088571	6010B	002	4/1/2005	14:04
7439-92-1	Lead	150		0.60	1	5088571	6010B	016	4/1/2005	13:55
7439-93-2	Lithium	8.5	B	20	1	5088571	6010B	002	4/1/2005	14:04
7439-95-4	Magnesium	3000		1000	1	5088571	6010B	002	4/1/2005	14:04
7439-96-5	Manganese	230		3.0	1	5088571	6010B	016	4/1/2005	13:55
7439-98-7	Molybdenum	4.0	B	6.0	1	5088571	6010B	016	4/1/2005	13:55
7440-02-0	Nickel	14		8.0	1	5088571	6010B	016	4/1/2005	13:55
7440-09-7	Potassium	3400		1000	1	5088571	6010B	002	4/1/2005	14:04
7782-49-2	Selenium	0.39	U	1.0	1	5088571	6010B	016	4/1/2005	13:55
7631-86-9	Silica as SiO ₂ , Dissolve	470		5.0	1	5088571	6010B	002	4/1/2005	14:04
7440-22-4	Silver	0.050	U	1.0	1	5088571	6010B	016	4/1/2005	13:55
7440-23-5	Sodium	1100		1000	1	5088571	6010B	002	4/1/2005	14:04
7440-24-6	Strontium	380		40	1	5088571	6010B	016	4/1/2005	13:55
7440-28-0	Thallium	0.69	B	2.0	1	5088571	6010B	016	4/1/2005	13:55
7440-31-5	Tin	2.4	B	40	1	5088571	6010B	016	4/1/2005	13:55
7440-32-6	Titanium	550		0.20	1	5088571	6010B	002	4/1/2005	14:04
7109-6	Uranium	1.6	U	40	1	5088571	6010B	016	4/1/2005	13:55
7440-62-2	Vanadium	82		8.0	1	5088571	6010B	016	4/1/2005	13:55

Form 1 Analysis Data Sheet Equivalent



Kaiser-Hill LLC

Total Metals Analysis Data Sheet

Lab Name: STL DENVER

Client Sample ID: 05Z0992-002.001

Lot/SDG Number: 05Z0992

Lab WorkOrder: G69AH

Matrix: SOIL

Lab Sample ID: D5C290333-002

% Moisture:

Date/Time Collected: 03/28/05 10:25

Units: MG/KG

Date/Time Received: 03/29/05 12:25

CAS No.	Analyte	Conc.	Q	RL	Dilution Factor	QC Batch ID	Method	Instrument ID	Analysis Date	Analysis Time
7440-66-6	Zinc	140		4.0	1	5088571	6010B	002	4/1/2005	14:04

U Result is less than the instrument detection limit (IDL).

B Estimated result. Result is less than RL and greater than or equal to the IDL.



Kaiser-Hill LLC

Total Metals Analysis Data Sheet

Lab Name: STL DENVER

Client Sample ID: 05Z0992-002.001

Lot/SDG Number: 05Z0992

Lab WorkOrder: G69AH

Matrix: SOIL

Lab Sample ID: D5C290333-002

% Moisture:

Date/Time Collected: 03/28/05 10:25

Units: MG/KG

Date/Time Received: 03/29/05 12:25

CAS No.	Analyte	Conc.	Q	RL	Dilution Factor	QC Batch ID	Method	Instrument ID	Analysis Date	Analysis Time
7439-97-6	Mercury	0.0021	U	0.20	1	5089171	7471A	019	4/4/2005	17:31

U Result is less than the instrument detection limit (IDL).



Kaiser-Hill LLC

Total Metals Analysis Data Sheet

Lab Name: STL DENVER

Client Sample ID: 05Z0992-003.001

Lot/SDG Number: 05Z0992

Lab WorkOrder: G69AJ

Matrix: SOIL

Lab Sample ID: D5C290333-003

% Moisture:

Date/Time Collected: 03/28/05 10:45

Units: MG/KG

Date/Time Received: 03/29/05 12:25

CAS No.	Analyte	Conc.	Q	RL	Dilution Factor	QC Batch ID	Method	Instrument ID	Analysis Date	Analysis Time
7429-90-5	Aluminum	7500		40	1	5088571	6010B	002	4/1/2005	14:09
7440-36-0	Antimony	0.37	U	12	1	5088571	6010B	016	4/1/2005	14:00
7440-38-2	Arsenic	3.0		2.0	1	5088571	6010B	016	4/1/2005	14:00
7440-39-3	Barium	110		20	1	5088571	6010B	016	4/1/2005	14:00
7440-41-7	Beryllium	0.35		0.20	1	5088571	6010B	002	4/1/2005	14:09
7440-42-8	Boron	8.9		1.5	1	5088571	6010B	002	4/1/2005	14:09
7440-43-9	Cadmium	0.10	B	1.0	1	5088571	6010B	016	4/1/2005	14:00
7440-70-2	Calcium	67000		1000	1	5088571	6010B	002	4/1/2005	14:09
7440-47-3	Chromium	15		0.40	1	5088571	6010B	016	4/1/2005	14:00
7440-48-4	Cobalt	6.5	B	10	1	5088571	6010B	016	4/1/2005	14:00
7440-50-8	Copper	15		5.0	1	5088571	6010B	016	4/1/2005	14:00
7439-89-6	Iron	8000		20	1	5088571	6010B	002	4/1/2005	14:09
7439-92-1	Lead	4.7		0.60	1	5088571	6010B	016	4/1/2005	14:00
7439-93-2	Lithium	7.3	B	20	1	5088571	6010B	002	4/1/2005	14:09
7439-95-4	Magnesium	2300		1000	1	5088571	6010B	002	4/1/2005	14:09
7439-96-5	Manganese	180		3.0	1	5088571	6010B	016	4/1/2005	14:00
7439-98-7	Molybdenum	3.1	B	6.0	1	5088571	6010B	016	4/1/2005	14:00
7440-02-0	Nickel	11		8.0	1	5088571	6010B	016	4/1/2005	14:00
7440-09-7	Potassium	2100		1000	1	5088571	6010B	002	4/1/2005	14:09
7782-49-2	Selenium	0.39	U	1.0	1	5088571	6010B	016	4/1/2005	14:00
7631-86-9	Silica as SiO2, Dissolve	770		5.0	1	5088571	6010B	002	4/1/2005	14:09
7440-22-4	Silver	0.35	B	1.0	1	5088571	6010B	016	4/1/2005	14:00
7440-23-5	Sodium	300	B	1000	1	5088571	6010B	002	4/1/2005	14:09
7440-24-6	Strontium	250		40	1	5088571	6010B	016	4/1/2005	14:00
7440-28-0	Thallium	0.53	U	2.0	1	5088571	6010B	016	4/1/2005	14:00
7440-31-5	Tin	2.4	B	40	1	5088571	6010B	016	4/1/2005	14:00
7440-32-6	Titanium	450		0.20	1	5088571	6010B	002	4/1/2005	14:09
11-09-6	Uranium	1.6	U	40	1	5088571	6010B	016	4/1/2005	14:00
7440-62-2	Vanadium	70		8.0	1	5088571	6010B	016	4/1/2005	14:00

Form 1 Analysis Data Sheet Equivalent



Kaiser-Hill LLC

Total Metals Analysis Data Sheet

Lab Name: STL DENVER

Client Sample ID: 05Z0992-003.001

Lot/SDG Number: 05Z0992

Lab WorkOrder: G69AJ

Matrix: SOIL

Lab Sample ID: D5C290333-003

% Moisture:

Date/Time Collected: 03/28/05 10:45

Units: MG/KG

Date/Time Received: 03/29/05 12:25

CAS No.	Analyte	Conc.	Q	RL	Dilution Factor	QC Batch ID	Method	Instrument ID	Analysis Date	Analysis Time
7440-66-6	Zinc	44		4.0	1	5088571	6010B	002	4/1/2005	14:09

U Result is less than the instrument detection limit (IDL).

B Estimated result. Result is less than RL and greater than or equal to the IDL.



Kaiser-Hill LLC

Total Metals Analysis Data Sheet

Lab Name: STL DENVER

Client Sample ID: 05Z0992-003.001

Lot/SDG Number: 05Z0992

Lab WorkOrder: G69AJ

Matrix: SOIL

Lab Sample ID: D5C290333-003

% Moisture:

Date/Time Collected: 03/28/05 10:45

Units: MG/KG



Date/Time Received: 03/29/05 12:25

CAS No.	Analyte	Conc.	Q	RL	Dilution Factor	QC Batch ID	Method	Instrument ID	Analysis Date	Analysis Time
7439-97-6	Mercury	0.0025	B	0.20	1	5089171	7471A	019	4/4/2005	17:32

U Result is less than the instrument detection limit (IDL).

B Estimated result. Result is less than RL and greater than or equal to the IDL.

S
DELIVER

Site: RFETS		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				COC: 05Z1155#001 		Page 1 of 1	
Sampling Co: STOLLER		(time/date)		Contact/Requester PODOLSKY, STEWART / MYERS, KIM		Telephone No. 303-994-4098 / 7106			
RIN: 05Z1155 		Sampling Origin B460		Purchase Order/		EHF460CH			
Project Title B460 PAINT SAMPLES		Logbook No. 99 Step Unit		Ice Chest No. NA		Temp. 26 ; 3.1			
To LAB: STLDEN		Shipment Method REGULAR		Bill of Lading/ Air Bill No. NA					
Protocol TBD		Related COC NA		PRE		50316-R155-002			
POSSIBLE SAMPLE HAZARDS/REMARKS Are acid preserved samples DOT hazardous per 40 CFR Part 136.3 Table II? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Are other known hazardous substances present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>					SCREENING REQUIRED <input type="checkbox"/>	SPECIAL INSTRUCTIONS Hold Time LAB REQUESTED DATE SET TO 3/17/05. DATA IS DUE BY COB 3/20/05. See COC 05Z1155#001A for signature continuation. TAT were changed on this COC.			
Bottle No.	Customer Number	Matrix	Date/Time	Location	Container (size/type)	Sample Analysis (Field-Filtered) LIC (Method Title) [TAT]/(Parameter List)			Preservative; Packing
05Z1155 -001.001	west side	SOLID	4/14/05 1310	B460	10-G P	MET-A-022 (METALS - 6010/6010B - SINGLE)[3dF] {LEAD}			None; Box
05Z1155 -002.001	east side	SOLID	↓ 1320	B460	10-G P	MET-A-022 (METALS - 6010/6010B - SINGLE)[3dF] {LEAD}			None; Box
Relinquished By: [Signature] #4	Date/Time: 4/15/05	1130	Received By: [Signature]	Date/Time: 4/15/05	1130	Relinquished By: [Signature]	Date/Time: 4/15/05	1230	Received By: [Signature]
Relinquished By:	Date/Time:		Relinquished By:	Date/Time:		Relinquished By:	Date/Time:		Relinquished By:
Relinquished By:	Date/Time:		Received By:	Date/Time:		Relinquished By:	Date/Time:		Received By:
Relinquished By:	Date/Time:		Received By:	Date/Time:		Relinquished By:	Date/Time:		Received By:



Kaiser-Hill LLC

Total Metals Analysis Data Sheet

Lab Name: STL DENVER

Client Sample ID: 05Z1155-001.001

Lot/SDG Number: 05Z1155

Lab WorkOrder: G8HLF

Matrix: SOLID

Lab Sample ID: DSD150389-001

% Moisture:

Date/Time Collected: 04/14/05 13:10

Units: MG/KG

Date/Time Received: 04/15/05 12:20

CAS No.	Analyte	Conc.	Q	RL	Dilution Factor	QC Batch ID	Method	Instrument ID	Analysis Date	Analysis Time
7439-92-1	Lead	18000		6.0	10	5105426	6010B	020	4/18/2005	12:10

U Result is less than the instrument detection limit (IDL).



Kaiser-Hill LLC

Total Metals Analysis Data Sheet

Lab Name: STL DENVER

Client Sample ID: 05Z1155-002.001

Lot/SDG Number: 05Z1155

Lab WorkOrder: G8HLH

Matrix: SOLID

Lab Sample ID: D5D150389-002

% Moisture:

Date/Time Collected: 04/14/05 13:20

Units: MG/KG

Date/Time Received: 04/15/05 12:20

CAS No.	Analyte	Conc.	Q	RL	Dilution Factor	QC Batch ID	Method	Instrument ID	Analysis Date	Analysis Time
7439-92-1	Lead	16000		6.0	10	5105426	6010B	020	4/18/2005	12:35

U Result is less than the instrument detection limit (IDL).

ATTACHMENT E

Data Quality Assessment (DQA) Detail

DATA QUALITY ASSESSMENT (DQA)

VERIFICATION & VALIDATION OF RESULTS

V&V of the data confirm that appropriate quality controls are implemented throughout the sampling and analysis process, and that any substandard controls result in qualification or rejection of the data in question. The required quality controls and their implementation are summarized in a tabular, checklist format for each category of data – radiological surveys and chemical analyses (specifically asbestos and beryllium).

DQA criteria and results are provided in a tabular format for each suite of surveys or chemical analyses performed; the radiological survey assessment is provided in Table E-1, Asbestos in Table E-2, Beryllium in Table E-3 and Metals in Table E-4. A data completeness summary for all results is given in Table E-5.

All relevant Quality records supporting this report are maintained in the RISS Characterization Project Files. This report will be submitted to the CERCLA Administrative Record for permanent storage within 30 days of approval by the Regulators. All radiological data are organized into Survey Packages, which correlate to unique (MARSSIM) Survey Units. Chemical data are organized by RIN (Report Identification Number) and are traceable to the sample number and corresponding sample location.

Beta/gamma survey designs were not implemented for Building 460 based on the conservatism of the transuranic limits used as DCGLs in the unrestricted release decision process. Survey designs were implemented based on the transuranic limits used as DCGLs in the unrestricted release decision process. All survey results were evaluated against, and were less than the Transuranic DCGL_w (100 dpm/100cm²) and the Uranium DCGL_w (5,000 dpm/100cm²) unrestricted release limits.

Consistent with EPA's G-4 DQO process, the radiological survey design (for those survey units performed per PDS requirements) was optimized by checking actual measurement results (acquired during pre-demolition surveys) against model output with original estimates. Use of actual sample/survey (result) variances in the MARSSIM DQO model confirms that an adequate number of surveys were acquired.

SUMMARY

In summary, the data presented in this report have been verified and validated relative to the quality requirements and project decisions as stated in the original DQOs. All data are useable based on qualifications stated herein and are considered satisfactory without qualification. All media surveyed and sampled yielded results less than their associated action levels and with acceptable certainties except the below anomalous condition:

- Mixing tanks located in room 141 stored and processed chromium. Because chromium was the only chemical stored in these tanks, only sampling and analysis for RCRA Metals was performed. Two samples plus one duplicate (core samples-RIN05Z0992) were taken and analyzed for RCRA Metals. Initial analytical results indicate a Total Concentration for lead greater than 100 mg/kg. This indicates the potential for lead to be above the regulatory limit of 5 ppm. However, the sample taken from behind the tank did not have this level of lead concentration. The only difference between the sample locations was the type of paint covering the floor. Therefore, two confirmatory samples (RIN#05Z1155) of the paint in front of the tank were taken. The analysis confirmed that the paint is lead-based. However, Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based paint Debris Disposal*, states that LBP debris generated outside of currently identified high contamination areas shall be managed as non-hazardous (solid) waste, and additional analysis for characteristics of hazardous waste derived from LBP is not a requirement for disposal. Because there are no high contamination areas in Building 460, this paint may be disposed of as non-hazardous (solid) waste.

Prior to the completion of the RLC, asbestos sampling performed in 1994 and 2003. The 1994 sampling determined that there is Category 1 non-friable asbestos containing vinyl asbestos floor tile and mastic (1.4%) in the Room 151 area. Category 1 non-friable asbestos containing caulk was also identified on the building exterior flashing between the concrete and metal walls that contain 1.0% asbestos. However, since these materials are Category 1 non-friable ACM, asbestos abatement is not necessary prior to demolition and the demolition debris can be managed as sanitary waste. Since the floor tile and caulking samples were collected in 1994, no sample location maps were available for this report. All 2003 laboratory results were non-detect for asbestos.

Based upon an independent review of the radiological data, it was determined that the original project DQOs satisfied MARSSIM guidance. All facility contamination levels were below applicable unrestricted release levels. Minimum survey requirements were met, sampling/survey protocol was performed in accordance with applicable procedures, survey units were properly designed and bounded, and instrument performance and calibration were within acceptable limits thereby ensuring data accuracy criteria. All results meet the PDS unrestricted release criteria.

Chain of Custody was intact; documentation was complete, hold times were acceptable (where applicable,) and packaging integrity/custody seals were maintained throughout the sampling/analysis process. Level 2 Isolation Controls have been posted to prevent the inadvertent introduction of contamination into the facility. On this basis, Building 460 meets the unrestricted release criteria with the confidences stated herein and can be demolished.

Table E-1 V&V of Radiological - Building 460

V&V CRITERIA, RADIOLGICAL SURVEYS		K-H RSP 16.00 Series MARSSIM (NUREG-1575)		
QUALITY REQUIREMENTS				
	Parameters	Measure	Frequency	COMMENTS
ACCURACY	initial calibrations	90%<x<110%	≥1	Multi-point calibration through the measurement range encountered in the field; programmatic records.
	daily source checks	80%<x<120%	≥1/day	Performed daily/within range.
	local area background: Field	typically < 10 dpm	≥1/day	All local area backgrounds were within expected ranges (i.e., no elevated anomalies.)
PRECISION	field duplicate measurements for TSA	≥5% of real survey points	≥10% of reals	N/A
REPRESENTATIVENESS	MARSSIM methodology: Survey Units 460002, 460003, 460504 (interior) and EXT-B-001 (exterior).	statistical and biased	NA	Random w/ statistical confidence.
	Survey Maps	NA	NA	Random and biased measurement locations controlled/mapped to ±1m.
	Controlling Documents (Characterization Pkg; RSPs)	qualitative	NA	Refer to the Characterization Package (planning document) for field/sampling procedures (located in Project files); thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	units of measure	dpm/100cm ²	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual surveys usable results vs. unusable	>95% >95%	NA	See Table E-5 for details.
SENSITIVITY	detection limits	TSA: ≤50 dpm/100cm ² RA: ≤10 dpm/100cm ²	All measures	MDAs ≤ 50% DCGL _w per MARSSIM guidelines (RLC performed to PDS requirements).

Table E-2 V&V of Asbestos Results - Building 460

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
ASBESTOS	METHOD: EPA 600/R-93/116	LAB ---->	Reservoirs Environmental, Inc. Denver, Co.	
QUALITY REQUIREMENT		RIN ---->	RIN 04Z0218	
		Measure	Frequency	COMMENTS
ACCURACY	Calibrations: Initial/continuing	below detectable amounts	≥1	Semi-quantitative, per (microscopic) visual estimation.
PRECISION	Actual Number Sampled LCSD Lab duplicates	all below detectable amounts	≥ 3 samples	Semi-quantitative, per (microscopic) visual estimation.
REPRESENTATIVENESS	COC	Qualitative	NA	Chain-of-Custody intact: completed paperwork, containers w/ custody seals.
	Hold times/preservation	Qualitative	NA	N/A
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	See original Chemical Characterization Plan (planning document); for field/sampling procedures (located in project file;) thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	Measurement Units	% by bulk volume	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	Qualitative	NA	See Table E-5: final number of samples at Certified Inspector's discretion.
SENSITIVITY	Detection limits	<1% by volume	All measures	N/A

Table E-3 V&V of Beryllium - Building 460

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
BERYLLIUM	Prep: NMAM 7300 METHOD: OSHA ID-125G	LAB ---->	Johns Manville Corp. Littleton, Co.	
		RIN ---->	RIN 05D0695	
QUALITY REQUIREMENTS		Measure	Frequency	COMMENTS
ACCURACY	Calibrations Initial	linear calibration	≥1	All results were below associated action levels.
	Continuing	80%<%R<120%	≥1	
	LCS/MS	80%<%R<120%	≥1	
	Blanks - lab & field	<MDL	≥1	
	interference check std (ICP)	NA	NA	
PRECISION	LCSD	80%<%R<120% (RPD<20%)	≥1	
	field duplicate	all results < RL	≥1	
REPRESENTATIVENESS	COC	Qualitative	NA	
	hold times/preservation	Qualitative	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	measurement units	ug/100cm ²	NA	
COMPLETENESS	Plan vs. Actual samples	>95%	NA	
	usable results vs. unusable	>95%		
SENSITIVITY	detection limits	MDL of 0.00084 ug/100cm ²	all measures	

Table E-4 V&V of Metals – Building 460

V&V CRITERIA, CHEMICAL ANALYSES			DATA PACKAGE		COMMENTS
Metals (total)	METHOD: SW6010/6020		LAB ---->	Severn Trent Denver, Co.	
			RIN ---->	RIN05Z0992 RIN05Z1155	
QUALITY REQUIREMENT			Measure	frequency	No qualifications significant enough to change project decisions, lead paint may be managed and disposed of as sanitary waste.
ACCURACY	calibrations	Initial	linear calibration	≥1/batch	
		Continuing	80%<%R<120%	≥1/batch	
	LCS		80%<%R<120%	≥1/batch	
	MS		75%<%R<125%	≥1/batch	
	blanks	Lab	mg/kg	≥1/batch	
	serial dilutions		%D<10%	≥1/batch	
	interference check std (ICP)		80%<%R<120%	bracket batch	
PRECISION	MSD		RPD<30%	≥1/batch	
	field duplicate		all results < RL	≥1/batch	
REPRESENTATIVENESS	COC		Qualitative	NA	
	hold times/preservation		≤180 days	NA	
	Controlling Documents (Plans, Procedures, Maps, etc.)		Qualitative	NA	
COMPARABILITY			mg/kg	NA	
COMPLETENESS	Plan vs. Actual samples		>95%	NA	
	usable results vs. unusable		>95%		
SENSITIVITY	detection limits		Various	all analytes	

Table E-5 Data Completeness Summary - Building 460

ANALYTE	Building/Area/ Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Asbestos	Building 460 (interior)	3 samples (interior)	3 samples (interior)	No ACM found, all results < 1% by volume	40 CFR763.86; 5 CCR 1001-10; EPA 600/R-93/116 RIN04Z0218
Beryllium	Building 460 (interior)	100 swipes (75 random/25 biased)	125 swipes (75 random/50 biased)	No beryllium contamination found, all results are below associated action levels	OSHA ID-125G RIN 05D0695 No results above action level (0.2ug/100cm ²) or investigative level (0.1 ug/100cm ²).
Metals	Building 460 (interior)	2 plus 1 duplicate (solid)	4 plus 1 duplicate (solid)	¹ Metal contamination identified potentially greater than the regulatory limit (5 ppm)	SW6010/6020 RIN05Z0992: sample map locations 1-3 RIN05Z1155: sample map locations 4 and 5 ¹ Metal contamination identified potentially greater than the regulatory limit (5 ppm). However, per Environmental Waste Compliance Guidance #27, <i>Lead-based Paint (LBP) and Lead-based paint Debris Disposal</i> , because the area is not a high contamination area, the paint may be managed and disposed of as non-hazardous waste. Refer to section 4.3 and Attachment E (DQA Detail) for detailed discussion.

Table E-5 Data Completeness Summary - Building 460

ANALYTE	Building/Area/ Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area 5 Survey Unit: 460002 Building 460 North Offices, High Bay and Loading Dock Areas - Interior	202 α TSA (151 random/51 biased) 202 α Smears (151 random/51 biased) 9 QC TSA 5% scan of all interior surfaces	202 α TSA (151 random/51 biased) 202 α Smears (151 random/51 biased) 9 QC TSA 5% scan of all interior surfaces	No contamination found at any location; all values below PDS unrestricted release limits	Transuranic DCGLs used.
Radiological	Survey Area 5 Survey Unit: 460003 Building 460 First Floor South Offices -Interior	95 α TSA (70 random/25 biased) 95 α Smears (70 random/25 biased) 4 QC TSA 5% scan of all interior surfaces	95 α TSA (70 random/25 biased) 95 α Smears (70 random/25 biased) 4 QC TSA 5% scan of all interior surfaces	No contamination found at any location; all values below PDS unrestricted release limits	Transuranic DCGLs used.
Radiological	Survey Area 5 Survey Unit: 460504 Building 460 Second Floor Office Areas - Interior	89 α TSA (64 random/25 biased) 89 α Smears (64 random/25 biased) 4 QC TSA 5% scan of all interior surfaces	89 α TSA (64 random/25 biased) 89 α Smears (64 random/25 biased) 4 QC TSA 5% scan of all interior surfaces	No contamination found at any location; all values below PDS unrestricted release limits	Transuranic DCGLs used.

TABLE C-2: BUILDING RCRA/CERCLA DATA SUMMARY

Sample Location / Media	Sample Number	Map Number	Result (mg/kg)
Building 460 core samples from slab	05Z0992-001.001 through 05Z0992-003.001	1-3	Lead results in two samples were above 100 mg/kg, indicating results may possibly be above the TCLP regulatory limit of 5 ppm
Building 460 paint chip samples	05Z1155-001.001 – 05Z1155-002.001	4-5	Lead results demonstrate paint is lead-based with total values of 18000 and 16000 mg/kg

RCRA Toxicity Characteristic Limits

Analyte	Regulatory limit (mg/L)
Arsenic (D004)	5.0
Barium (D005)	100.0
Cadmium (D006)	1.0
Chromium (D007)	5.0
Lead (D008)	5.0
Mercury (D009)	0.2
Selenium (D010)	1.0
Silver (D011)	5.0